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THE ARCHITECTURAL FORUM

FOR QUARTER CENTURY THE BRICKBUILDER

AN ENGLISH TUDOR COUNTRY HOUSE
at Morristown, New Jersey
Charles I. Berg, Architect

RECENT DISTINCTIVE
CALIFORNIA SCHOOLHOUSES
By William C. Hays

THE OFFICES OF
STARRETT & VAN VLECK
Architects, New York

NOTES ON THE SEVENTH
NATIONAL HOUSING CONFERENCE

A GOVERNMENT HOUSING PROJECT
at New Brunswick, N. J.

DECEMBER 1918

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THE EDITORS FORUM

THE things we most admire in old examples of architecture are the texture and beauty the walls have acquired through the weathering action of many years, and the human quality such works of art possess, because of the individual character built into them by the craftsmen employed upon the work. These qualities that are so essential to any building that is to look a part of the surroundings in which it is placed are the most difficult to obtain of all the distinctive marks every architect wishes his work to have. In the first place, it demands on the part of the architect an exceptionally keen knowledge of the physical characteristics of materials, and the artistic capacity of visualizing them when combined in the structure, and secondly, and where the greatest difficulty is most often met, securing the necessary co-operation and understanding on the part of building mechanics to translate into terms of actual building, the conception of the designer.

Approach to house of George Marshall Allen, Esq.
Morristown, New Jersey
Charles I. Berg, Architect

WE present in the plates of this issue, illustrations of the house of George Marshall Allen, Esq., at Morristown, N. J., whose architect, Mr. Charles I. Berg, has been especially fortunate in securing these qualities for his work. He further enjoyed the advantage of working with a client who fully appreciated the character of the style in which the house is designed and who offered a spirit of co-operation and understanding with which architects are rarely favored.

The remaining plates are selected to indicate the adaptation of other periods of English domestic architecture to modern American needs. They are equally, with the larger Tudor house, particularly interesting in illustrating the charm which may be given to any building through a knowledge of materials and their proper combinations in the structure to utilize the salient characteristics of color and texture.

WE present in the description of the offices of Starrett & Van Vleck, Architects, the last of a series of articles explaining the business systems in use in representative offices that have been singularly successful. A greater appreciation of the value of efficient office organization as an aid to good architecture is daily growing more apparent and may be said to be one of the desirable effects the war has had on the profession. Much is heard today of the varied and manifold changes the war will bring about in the character of the profession's work, and if all the prophecies expressed were to come about, there would be little of the old that would be recognized in the new. While there is not much question that fundamentally the profession's character will be but little changed, there is a strong indication that more and greater responsibility for results must be assumed by the architect, not only in securing a well constructed building, but in securing it at a cost that is fair to both owner and contractor, and through operations at all times governed by good business practice.

We aim to interpret this thought in measure with our ability, and present, in as tangible and definite form as possible, the conclusions that architects and others giving thought to the subject have reached. In the January issue we will publish the first of a series of carefully constructed papers considering the modern position of the architect in relation to the various duties he is called upon to fulfil. These articles are the result of much thought and investigation and they will deserve a careful reading.

THE signing of the armistice naturally brought to an end the excursions of the Government into the field of housing for workingmen employed in war industries. The work, while extensive, had not been under way long enough to enable definite plans to be adopted for the operation and final disposition of the communities so quickly established. Although no new work is being undertaken, interest in the Government's program is not in the least abated. There are many important points to be settled in the way of management and future ownership that will have a special interest for architects and we will record the development of policy as information is available.

This attractive and restful floor, in the store of Joseph Witkowski & Son, Detroit, Michigan, is composed of 6 x 6 inch white squares interlined with half-inch dark brown strips. Architect, George W. Graves, Detroit, Mich.

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THE ARCHITECTURAL FORUM

VOLUME XXIX NUMBER 6

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VIEW OF STAIR HALL FROM GREAT HALL

HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.

CHARLES I. BERG, ARCHITECT

(See page 145)

THE ARCHITECTURAL FORUM
FOR QUARTER CENTURY THE BRICKBUILDER

VOLUME XXIX DECEMBER 1918 NUMBER 6

Notes on the Seventh National Housing Conference

COPLEY PLAZA HOTEL, BOSTON, MASS., NOVEMBER 25 TO 27

IN the flush of enthusiasm and excitement which pervades such a gathering as the annual conference held under the auspices of the National Housing Association, the participants are pretty sure to tell each other at the close that "this was the most successful conference we ever held." From the point of view of attendance this can safely be said of the Boston conference, for it was held in a large city and one whose deep interest in the subject assured a large attendance of its own citizens who swelled the meetings to hitherto unprecedented numbers. Enthusiasm there was in plenty and idealism had unrestricted sway, but an unprejudiced observer might have missed a certain excitement and the direct talking to the point which characterized the Philadelphia conference last winter when the huge impending ventures of the Government into the housing field overshadowed all subsidiary issues. The sudden apparition of Peace, which "broke out" almost as did the war, is still so recent as to pervade all walks of life with a feeling of uncertainty, almost of dread, as to what will happen next. The sudden cancellation of the Government's housing program had only just occurred, and private enterprise had not had time to adjust itself to the coming order of things. All this had the effect of rendering the tone of much of the discussion, and even some of the papers, vague and uncertain, even while useful, earnest and enthusiastic.

The conference was the seventh annual one of its series. Mr. Veiller and his associates, to whom the greatest credit is due for the masterly manner in which this series of interesting events has been conducted, have therefore had time to gain a ripened experience. In view of the increasing success of the affairs, praise rather than criticism is certainly due; nevertheless, certain suggestions which are intended to be of a purely constructive nature have occurred to us, which if followed might still further conduce to the success of future conferences.

First of all, the events seem to be crowded. From morn to dewy eve the continuous round of discourses which invades even the lunch hour goes ceaselessly on. The three-minute public discussions, which ought to be of the greatest value, are too often either cut short on account of lack of time or appropriated by verbose personalities who, unable to express their ideas in terse, crisp sentences, are often obliged to sit down at the expiration of the time limit without having come to the point. The forming of mutual acquaintances and intimate discussion of interesting points by keen intellects in personal contact, which would be one of the pleasantest and most useful features, is prevented by the practice of filling every moment in advance. If the "Round Table Luncheon" feature were omitted and time allowed for a short walk and a breath of fresh air the afternoon sessions would be more worth while. The time for speeches thus lost would never be missed if the program were confined to topics of the hour.

It is the habit of the Association to adjourn without taking definite action or obtaining a consensus of opinion on the topics discussed, and this habit sometimes evokes surprised comment from the local press. In Boston, for example — an expression of opinion might have been obtained on any of the questions which came up — Government ownership of the war towns, self-ownership of the same, the adoption of standards, the furtherance of State or municipal housing schemes — all these were taken up and laid down without coming to any definite conclusion, although it is true the meeting of Monday afternoon passed the following unofficial resolution as only the sense of the people assembled at that meeting: "Resolved, that the meeting here assembled express its belief that the agencies of the Federal Government which are now engaged in building and managing housing developments should continue those developments already begun or planned wherever there is prospect of a demand for these houses under peace conditions, and should retain control of them until such a time as the Federal Government has determined upon its reconstruction program."

Housing science is admittedly one of the great questions of the day and its study henceforth will have to be conducted along clearly defined lines which look to the future instead of to the past. For example, the depressing pictures which were shown of scenes in the North End of Boston are "old stuff," and material of this sort should never be reintro-

duced in a meeting devoted to the new housing, for, as Mr. Logue clearly demonstrated, the conditions they illustrated were created years ago, before the adoption of the modern laws which now in Boston, as in most other cities, render future construction of this sort impossible. Thousands of unsanitary buildings have actually been removed by the City of Boston in the last few years, as Mayor Peters demonstrated, and the cleaning up and betterment of the existing slum is a matter for the attention of the health officials of a city, and should not distract the attention of the real students of housing from the great question of how to avoid the possibility of the recurrence of the evil.

Let the Association in its study of the problem insist on a critical review of the progress of the past year, architectural and legal, and try to draw definite conclusions therefrom. Let it concern itself with the study of ever improving standards of construction and design. Let the great question of community ownership receive the most careful attention, but above all, let it get down to the bed-rock question of what is really going to conduce most to the happiness and well-being of labor. Too many towns are planned on the theory of "what those people ought to have," developed by persons who in the nature of things cannot feel as does a workman or his wife. Labor leaders, who ought to take a leading part in these matters, have not studied the situation, and, strange as the statement may seem, stand tongue-tied when asked for their opinions — rarely getting beyond the statement that a workman wants "a five or six room detached house, oh, yes, with a bath, and a garden patch, yes, a porch, for a rent of, oh, $15 per month." Well, after all, who wouldn't like such a house? This sort of thing is not constructive and the results of the conference suffer from the absence of representation of the actual tenants, or their wives. A tenant's wife who can express her opinions clearly on the houses provided by the Government would be hard indeed to locate, but Mr. Veiller has unearthed some mighty good material in the past and we believe he is equal to finding such a speaker for the next conference.

The principal subjects which attracted the attention of the conference, aside from "Boston Day," which was unfortunately devoted to showing up the unsavory sections of the city rather than the many beautiful and instructive sections which would have been far more worth while, were the comprehensive reviews of the Government's housing activities during the past year by Mr. Leland, the interesting and frequently even thrilling idealism of Messrs. Ackerman, Adams and Purdy in connection with the future ownership and administration of the war emergency towns, the good natured and extremely valuable criticisms and suggestions of Dr. Vincent and Dr. Hutchinson, whose Salic wit was interjected into the meetings like a crisp salad course at dinner, and the fascinating humanism of Miss Marguerite Walker Jordan's talk on the last day, which held her hearers spellbound and won for her the only encore of the entire proceedings, bringing her back to the rostrum, to say in a charming accent, that "here in Boston you all are not so different from us down South!"

The other main line of thought was that introduced by the various architects who described certain completed projects and discussed types of plans for the future, an important feature of the conference in which much interest was shown and which might have profitably been opened up for public discussion.

On Monday morning after the preliminary addresses the question of "Rent Profiteering" was treated by Mr. James Ford of the United States Department of Labor, who described the work of the local committees which have been formed in fifty-nine cities to handle the questions at issue between the landlords and their tenants.

The reports from delegates at the Monday Round Table Luncheon brought out information as to recent legislation in the Province of Ontario which permits municipalities having housing shortages to loan funds totaling two millions annually at the rate of five per cent for the erection of workingmen's houses which will cost, including land, not more than $3000 per house, the return on the investment being guaranteed by the State; and from Philadelphia Mr. Ihlder disclosed the fact that there was a great discrepancy between police survey of houses suitable for living quarters and a survey carried on by an organization which would discriminate between bad and good conditions; thus, in Philadelphia, at the beginning of the war emergency, a police survey of the city indicated five thousand houses vacant — a survey by the Philadelphia Housing Association showed, however, that only four hundred and fifty of these were actually fit to live in. He also pointed out that unsanitary conditions were on the increase in Philadelphia, evidenced by the fact that during 1918 there were sixteen thousand violations of the building law against a total of ten thousand in 1917; and from New York it appeared that the outstanding feature for the year is the passage of a law permitting former single-family houses to be made over into three-family tenements. The passage of this law was brought about by the general stoppage of building and the absolute necessity, under the circumstances, of utilizing these vacant residences, and also, from the viewpoint of the tax commissioner, it enabled more taxes to be levied on such property.

The afternoon session, which closely followed the luncheon, was devoted to a lucid statement by Mr. Joseph D. Leland, 3rd, Vice-President of the United States Housing Corporation, of "What the

Government has done and is doing to house the industrial army." This paper is a complete documentary account of the Government's work in this line and was most useful in informing many of his hearers as to the exact status of the great work which has been carried out during the year.

Mr. Leland was followed by Mr. F. L. Ackerman, Supervisor of Design for the Emergency Fleet Corporation, in a scholarly paper, " Government Housing, Federal, State, Municipal — is it Desirable? " Mr. Ackerman's conclusion was favorable and he backed it with some unanswerable arguments, for example, when he said, " And why should we not make government the focus of our rational aims rather than a policeman to arrest or a court to punish? There is no reason. With the function of government constantly expanding, why should we draw the line of its activities relating to the provision of adequate living conditions hard and fast at the property line along our highways and our streets? By allowing only police power to cross the property lines in our cities, by so doing, we foster the slum and the tenement, and we create the conditions which breed the diseases for which we call upon government in the guise of collective provision to erect and maintain the hospital, the insane asylum, the poorhouse and the jail." Mr. Ackerman drew a constructive conclusion as follows: " In the Federal executive should be lodged the authority to create an independent cabinet portfolio to organize knowledge and experience in a field broadly covered by the terms ' town planning,' ' housing ' and ' public works,' — this knowledge and experience to be made available through such activities as are now carried on by the Department of Agriculture in its own field. Similar executive bodies should be created in the states and in municipalities in order to stimulate co-ordinated action in matters related to municipal, state and nation planning and the distribution of population. Whether or not Federal credit should be used for the purpose of stimulating housing is open to question, but the credit of states and of municipalities must be used for this purpose. The use and direction of this credit should be controlled by executive rather than legislative authority and it should be limited to the use of municipalities or to properly constituted non-dividend corporations. If we wish to achieve a truly national minimum with respect to the conditions under which all men live, we must stimulate as well as restrict action; and the stimulation of action can be achieved most certainly through the direction of credit to this end.

Mr. Thomas Adams' address on Monday evening on " Housing and Reconstruction " was fully up to the standard of this brilliant reformer — whose convincing idealism is so well sustained by his practical common sense. His entire address was full of terse, epigrammatic statements, of which we give a few.

" The home connotes the family; and the family, and not the individual, is the unit of the civic structure. A true housing policy must go further than improving or providing dwellings; it must be part of a comprehensive policy of town and country development. We must apply more thought to the theories and practical tendencies of urban and rural growth, and fit in our housing policies as part of a comprehensive scheme of urban and rural organization.

" Housing in connection with reconstruction is a different thing than housing connected with war industries — and requires a broader social vision and more courage to deal with it. It is beset with both practical and constitutional difficulties.

" The provision of houses, as part of a policy of reconstruction, has still to be begun in this country, as in Canada. Yet what were among the reasons why you inaugurated a war housing policy? Why did your Government vote hundreds of millions to house war workers? Read the evidence before committees of Congress and you will find that some of the most important reasons were that it would increase output in the shipbuilding yards and munition plants by increasing the efficiency and contentment of the workers and that it would help you to win the war by stabilizing labor conditions. Are these reasons without application to peace industries? *If it is true that you needed good housing to win the war, is it not equally true that you need good housing to win and maintain the victory of peace?* "

" In every country where housing standards are low, wages are low. The German people are amongst the lowest paid and the worst housed. About sixty-five per cent of the people of Berlin live in two rooms or less, as against twenty-five per cent in London. Two-thirds of the Berlin people live in tenements of five stories or over. That is the chief reason for the high tuberculosis death rate, and the excessive illegitimacy of Berlin, and for the fact that only nineteen per cent of the sons of Berlin-born parents were fit for military service. Wages keep in proportion to these low standards, and the contrary is also true where standards are higher."

Mr. Adams was followed by Dr. George E. Vincent, president of the Rockefeller Foundation, who described in detail the emergency village of Gretna in Scotland with its many carefully and attractively worked out features and drew from his visit the wish " that Gretna had been created by its people rather than for them," or, in other words, that even the shadow of paternalism, whether governmental or proprietary, is distasteful. " People who have been exposed to democracy dislike seeming philanthropy, they prefer to do things themselves, even if they do it rather badly." He foresaw a new spirit of unity, comradeship and democracy which will do for the industrial army in peace what was done for the fighting

army in war. His address was pungent with wit and good-natured satire of the reformers who " wreak their philanthropy " on the defenceless workers, but he evidently favored the idea of self-ownership of towns and did not remonstrate when President Eliot, the chairman, gently hinted that perhaps the Rockefeller Foundation was going to " do something " about it.

Tuesday morning saw two section meetings, in one of which Mr. Ralph Adams Cram, chairman of the Boston City Planning Board, in his talk on " Scrapping the Slum " laid stress on the bad effect that raising street car rates would have in increasing present congestion by keeping people in the slums who otherwise would migrate to the outskirts. The other meeting considered a paper by Mr. C. B. Ball, chief sanitary inspector of the Chicago Health Department, on the question " Can a Health Department Cope Adequately with the Housing Problem? " His conclusion was that the design and construction of tenements should be passed upon by the Health Department as well as the Building Department. Mr. Ball was followed by Mr. John Nolen, city planner of Cambridge, who restated the now generally familiar " Housing Standards of the Federal Government."

The afternoon was devoted to an automobile trip.

The evening session was supposedly to be devoted to aiding the City of Boston in the solution of its housing problems — though it cannot be said that very much progress was made in that direction. Mayer Peters simply and earnestly pledged his cooperation towards such an end, and all those who heard him must have hoped that he will be able to obtain wise counsel and all needed support.

Mr. Edward T. Hartman, secretary of the Massachusetts Civic Society, followed with lantern slides showing slum conditions in the North End which did not vary from well known pictures showing similar conditions in other cities, and finished with an argument for the single tax. Mr. Charles Logue, chairman of the Mayor's Housing Committee, explained that the conditions illustrated by Mr. Hartman were mainly due to the influx of alien races before the present building laws were in effect and maintained that they were not the fault of the individual owners, who in many cases had bought the property as it stands, and that the city, having allowed the slums to be created, should assume the expense of reclaiming them. To the great delight of some " real-estaters " in the audience he said that the three-decker was an ideal house.

Mr. Ihlder and Mr. Ball, speaking as outsiders, implied that Boston was not abolishing slums as fast as it should, but they failed to name any other city which was doing so any faster. Mr. Ball rightly insisted that newly constructed houses which must serve five or six generations deserve close attention rather than the old slum dwellings which must in any case soon give way to progress.

Dr. Woods Hutchinson, called to the platform by the chairman, said Boston should have an excess condemnation law. On being told by Ex-Mayor Fitzgerald from the floor that it already existed, he retorted, " Why don't you apply it, then? "

The proceedings, which were held in the Palm Room of the hotel, were so disturbed by attempts to remedy the bad ventilation and the racket of a near-by dish-washing machine that Mr. Veiller made arrangements to adjourn to the ballroom, but the audience voted that they preferred to remain where they were. This decision caused the presiding officer, the Rev. Paul Revere Frothingham of Boston, to wittily remark that this was a perfect illustration of the difficulties attending housing reform. " Here you are," said he, " suffering from bad air and all the discomforts of bad housing, and when the greatest housing expert in the country offers to better your conditions you say you prefer to stay where you are! "

The section meetings on Wednesday morning were devoted respectively to illustrating Government housing and to problems of management. At the first Mr. Walter H. Kilham of Kilham & Hopkins, architects, of Boston, Mr. Emile G. Perrot of Ballinger & Perrot, Philadelphia, and Mr. Electus D. Litchfield of New York described in the above order by means of lantern slides the Emergency Fleet Corporation's new towns, Atlantic Heights at Portsmouth, N. H., Union Park Gardens at Wilmington, Del., and Yorkship Village at Camden, N. J. They were followed by Mr. R. H. Dana, Jr., of Murphy & Dana, New York, in an exposition of the advantages and possibilities of the group house. Mr. Dana argued that the cheapness of the group system of construction would enable the tenant to get better accommodation for his money than he would in a single house, that the compactness of a town built on the group system would shorten distances so that walking would supplant riding in the bad air of crowded street cars and finally and chiefly the æsthetic effect of the entire project would be improved by the longer horizontal lines of the buildings. Rents, he said, were in general at present $5 per month per room, plus $5 for modern conveniences, such as bathroom, furnace and electric lighting; *i.e.*, a rental of $25 per month would mean four rooms at $5, plus conveniences at $5. Above $35 the problem is different and does not concern us, while below $25 tenants must not expect a new model house, but must be content with old ones.

This latter statement, it seems to us, while perfectly true in practice indicates an abandonment of the attempt to provide homes for the class which needs them the most, and it is to be hoped that the implied suggestion will not prevail. The speaker devoted some time to an argument that the side

yards between single or semi-detached houses were useless, full of ice in winter and bare of grass in summer, while at the same time draughty and not required for paths to the back doors. He also claimed that windows on side yards were objectionable, as they looked directly into those of the next house and that it would be preferable to concentrate windows in the rear and side walls. Possibly there may be some foundation of truth in these remarks, but we fancy that Mr. Dana will have difficulty in obtaining many adherents to his theory. The Government has insisted on a minimum space of sixteen feet between houses — which is ample for two good paths and for not only air but sun to penetrate, particularly when the houses are at the most, only two stories high, while the benefit of immediate access to one's backyard without going around the block to it is so great as to need no argument. Mr. Dana recommended groups of four units as giving the best proportion and cited the possibility of using the same chimney and lines of plumbing stacks for two adjacent houses. The Emergency Fleet Corporation, however, ruled last summer that each house must have separate utilities, including separate connection to the sewer, to avoid any difficulties that might arise in connection with their sale, and there is certainly a growing number of people who prefer to sacrifice the impressive facade of the group house for the cottage type, with its abundance of sun and air and feeling of independence.

Unquestionably the problems of management of the new towns are a topic of the greatest moment at present and the views of Mr. Fred C. Feld, rental-manager of Yorkship Village, as he set them forth in the second section meeting were well worthy of attention. Some of his suggestions were that in rental operations overcrowding be controlled by a statement in the lease of the maximum number each house might accommodate. Weekly rentals he considered best, because all business transactions of the workman are on a weekly basis. The workmen generally desire to have their rent deducted from their pay, a system which is easy for them but bad for their habits of responsibility. He emphasized the desirability of sufficient rear yard space for playing, so that mothers could keep close watch on their children, which is not possible when the child goes to a playground.

Mr. Harold G. Aron, Chief of the Property Bureau of the Emergency Fleet Corporation, Housing Department, paid a deserved tribute to the good work of the architects and strongly advocated a no-sales policy for the present by the Government. The new housing enterprises should not be considered as exploded shells, worth only what salvage could be obtained from them, but should be conducted as important experiments. There is the present danger that the workmen will not be willing to pay the rentals required by the standards built into the Government houses even on the normal investment, after the excess cost due to war conditions has been written off. If it appears that the workman has not caught up with our ideals, the whole program will be threatened and Government housing forever cited as a horrible example of ideals put into practice.

Miss Marguerite Walker Jordan, Director of the Industrial Relations Bureau of Altoona, Pa., followed with an entertaining and earnest discourse, entitled "What the Tenant Really Wants." Miss Jordan, who has studied this question at close range, presented the matter in a thoroughly human and practical way. Her argument was strongly for humanizing labor, for ameliorating the unbelievably unsocial atmosphere of the industrial villages, and for turning the worker, not into an industrial machine, but into an understanding, directing partner in the business. Problems of management begin with the tenant, who nails up his window, sews up Johnny into his winter flannels, feeds him on "fat buck and co'n bread," and dislikes interference; witness the Southern mountaineer, who addressed the medical experts of the Rockefeller Foundation, thus; "What air you furriners pesterin' us for? I reckon this here is *our* hook worm!" To approach such a problem, infinite patience and understanding of past opportunity and environment are necessary, for laboring people are intensely jealous and given to much gossip. The next essential problem is the owner who must take a really personal interest until the tenant shall stop thinking of him as a favored being whose heaviest duty is to be whirled back and forth to his business in a six-cylinder, but shall recognize in him a fellow workman. Then there is the sociological factor, and the avoidance of thrusting forward the manager's point of view, as, for example, was done by a worker who almost broke up the community meetings because she didn't believe in kissing games. All this, Miss Jordan claimed, "Looks easy to the outsider, but so does tight-rope walking." A study of the community's real wants is most important, but a line from the speaker's concluding paragraph may well be quoted intact, for the idea has seldom been so well expressed: "The organization that redeems industry first; that uses the wealth that has come from its combined creative spirit to liberate that same creative spirit in others, will be looked upon as the real redeemer of wealth. This creative spirit is ethical. It means that beautiful things are not only to be placed around the laboring man, but they are to be put in his heart and there made free and allowed to work out through his hands. It means that the soul needs a crumb to feed on."

The paper by Mr. Lawson Purdy of New York, Chairman of the Committee on Industrial Towns, entitled "Own Your Own Town" evoked much

interest. Mr. Purdy described the ideal town and developed his suggestion for community ownership by saying that the land and buildings should be owned by a corporation without capital stock directed by trustees of ability and public spirit. After a community spirit was formed the tenants should elect some of the trustees and perhaps ultimately all of them. The capital for such an enterprise should be supplied, profitably to itself, by an industrial corporation which desires a stable supply of workers, by the United States, as it has already, or by states or cities. Such a community should be able to buy itself free in from twenty-five to fifty years and be well off in the meantime. If five per cent interest is paid on capital and two per cent to a sinking fund, the principal would be paid in about twenty-seven years. A sinking fund should be maintained for replacement of buildings. Under a single control with efficient management the buildings would have a much longer life than under ordinary conditions. When the property shall be paid for in full the entire net earnings would be available for community welfare and can be so maintained forever for all subsequent tenants.

The remainder of the conference was devoted to the discussion of " Good Housing as a Reducer of Labor Turnover," by Capt. Boyd Fisher of the Employment Management Division, War Industries Board, and " What Labor Wants," by Mr. Mathew Woll of the Sub-Committee on Labor, Advisory Commission, Council of National Defence. The inference was that labor is in favor of governmental action to secure workingmen's houses.

It would seem to us desirable that in the Government properties a definite rental policy based on the income of the tenant should be arranged. High war costs of the present housing will have to be written off as part of the cost of unpreparedness, but it is an elementary principle of political economy that rentals must bear a definite relation to the wage scale, for labor is the largest item in the cost of the house itself.

The common laborer and the slum dweller and their families who need the uplift most still, as ever, get the bad end of the deal in the new towns. The high cost of building, due to high wages paid labor, makes it impossible to provide them with new and clean abodes. The attempt has been made over and again, to end only in failure. The only visible possibility of solution is the self-ownership principle applied to towns, combined with such a degree of unselfishness as would render these self-governing and self-supporting towns willing to devote a portion of their revenues to providing such abodes, welcoming the laborer to the community, and letting him live in them, charging off the loss to offset the advantages of a well rounded community life which would include all classes, and of immunity from slums and the misfortunes that always come in their train.

The discussion of the greater questions of ownership and operation of industrial towns left little or no time to bring up matters of community organization, which is apt to be limited to the clinic, the cinema and the kindergarten, but it would seem as if this was the accepted time to install at least a bakery in each village so that instead of four hundred stoves being heated to the baking point with a vast waste of fuel and effort, one big fire at the village bakery would bake the bread (and the beans) for the whole community. This is the French system, but it is also the system which prevailed in New England towns during the writer's boyhood, when all the bean pots in town, neatly wrapped in blue and white cloths, were taken to the bakehouse for the Saturday baking. And by the same token the idea of the French *lavoir* where all the women of the village wash the clothes together, avoiding loneliness and enjoying delicious gossip, might be a cure for some of the unsociability of the American industrial villages.

While it had to be expected that some of the discussions would be pointless, the proceedings were enlivened by a good many flashes of wit and some epigrams were uttered which will wear well enough for future use. Just as an example there was Mayor Peters' line encouraging idealism in housing, " Draw a Plimsoll line on the ship of state and sooner or later public opinion will rise to that line." Mr. Adams was, as usual, prolific in pithy sayings, one of the best of which, a version of Edmund Burke's remark anent the American Revolution, was, " Don't be limited by what the lawyer says we may do, but do what we feel we ought to do," while Miss Jordan stated that " Interest in the human machinery must become a part of the business; it must permeate the organization like yeast in bread, not wrapped in tinfoil either, but loosened." Some speaker — was it Dr. Hutchinson? — advised his hearers " not to be frightened when they shake the Constitution at you." And perhaps the advice that next year's speakers had best take to heart was Miss Jordan's closing remark — " It is time that I remembered the advice of my dear old black Mammy: ' Honey, de pusson dat tells all da knows and stops dar, ain't so bad as de one dat keeps on goin'.' "

Much water has gone over the dam since the first housing conference and much progress has undoubtedly been made toward standardization of house plans and a better understanding of fundamental town planning principles; but it still must be remembered that most of the new housing so far constructed can benefit only the skilled mechanic, and that the housing movement in America has seemingly so far failed in the solution of the real problem, that of providing Garden City conditions for the family of the common laborer, the real victim of the slums.

An English Tudor Country House

THE RESIDENCE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.

CHARLES I. BERG, ARCHITECT

By ADRIAN BENTLEY

HENRY VIII brought many and great changes to England. During the early part of his reign, wealth and beauty of architecture were lavished on cathedrals and monasteries, and Henry had imported many Italian workmen to England to work on his Palace of Nonesuch. After his break with the Church, he dissolved the monasteries, and ecclesiastical work ceased to be a potent factor; the English, always a home-loving and a country-loving people, turned, with this change, toward the building of private houses, some quite palatial.

If, as has been said, Louis XIV's work was for show, and not for use and comfort, it can as justly be said that the Tudor or Elizabethan work was done entirely with a view to comfort, to which was added the charm of careful study for artistic harmony of surroundings.

A delightful picturesqueness characterized the pre-Elizabethan houses; plan and details were designed with regard to the comforts of life rather than with an aim for exact balance or symmetry.

The word Tudor in architecture brings to mind simple and substantial brick or stone houses, with such comforts as the period afforded, and placed in charming surroundings, with terraces, gardens and trees. In much of the work, the Italian influence exerted by the early workmen was still strong, even when unsuited to the English climate. The wood carvings were far cruder work than the Italians ever did; the same is true of the plaster ceilings, but they, like the carvings, had a certain virility of their own.

The charm is often difficult to understand. Modeling in stone and wood and plaster has been done with such perfection of detail in Italy, that the English work would seem most amateurish did not some unknown quality seem to give it a character and strength all its own.

Above all, the English love their gardens. The law of primogeniture assured the entailing of the estates, and generations of families living in the same spot insured the perfection of house and grounds.

English climate called for substantial building, with light on the south, and shelter on the north. The great land owners were not only the heads of the families, but they had innumerable retainers, and have always been a hospitable race, so they needed spacious homes as well.

Mr. George Marshall Allen was desirous of building a Tudor house in America, and examined many in England. Compton Wynyates in Warwickshire appealed most to him. To his architect, Mr. Charles I. Berg, the problem was a greater one, for Compton Wynyates, while externally a great and gracious pile charmingly situated and picturesque to the last degree, is, in the interior, much that a modern home should *not* be. This baronial hall is dignified and sumptuous, but the plans of both the first and second floors are badly arranged, and unlivable; so much so, that the present owner, the Marquis of Northampton, seldom lives there, as there are only three or four bedrooms, and no accommodation for guests.

While additions and alterations were constantly being made, old materials from Fulbrooke Castle

were available, so the bricks throughout (except those in the additions made during Queen Anne's time) are of the same quality and color.

Great care was evidently lavished on the house and its surroundings. The architecture was of varying periods, but all harmonious, and the softening effects of four hundred years make the ensemble a difficult one to transplant to American soil.

The land for the Allen house was well chosen, as it much resembles the old English rolling country. The location of the house once being determined, the general topography of the plot of twenty acres was carefully considered to obtain the proper setting with its relation to the outlying dependent buildings.

To Messrs. Brinley & Holbrook was intrusted the development of the ground, and as soon as the scheme as a whole was decided upon, work was started on all the dependent buildings, and carried to completion before the main house had advanced much above the foundation walls. The semi-detached lodges for the keeper and gardener were temporarily thrown into one, and became for the time the home of the family during the several years of the construction of the main building.

The house stands on the edge of an angle of a broad plateau, affording a long-distance view from its front approach. It faces north and northwest. Immediately to the west, south and southeast, the ground slopes sharply into a ravine, the opposite boundary of which rises suddenly with an embankment heavily wooded with tall oaks, chestnuts and maples, forming a background of ever changing color.

To the west of the grassy lawn and moat, on the axis of the west porch, a rough native field stone stairway conducts one to the sunken rock garden with its miniature canal banked with iris, in which gold fish ply in and out, through the thick lily pads. Farther on, the winding paths, banked on all sides with hardy herbaceous plants and rose gardens, conduct one to the quaint little dependent cottages, greenhouse, stable and garage, already mentioned. In fact, the location of the house recalls the setting of Compton Wynyates.

A glance at the plan will at once show the careful consideration of the disposition of the principal rooms, such as the living-room, morning-room, dining-room and the sleeping-rooms and terraces as well. In a word, every thought has been given to take advantage of the orientation of the house.

To obtain the softening quality or proper atmosphere in the new house was really the first problem to be considered by the architect, and therefore a few words in regard to the materials used on the exterior may be of interest. It was evident from the outset that to obtain a weathered appearance a clean-cut, hard and even colored brick must be avoided. A rough, hand-made brick, somewhat irregular and uneven in shape, was therefore adopted. A selection of colors was made, running on the warm grays, yellows, and browns, with a small percentage of reds of uneven burnings. After the percentage of these colors was decided upon, the bricks were well mixed and thrown into one pile, from which the masons picked them up at random. No course was permitted to be laid to a line. Mortar joints were not struck. The various illustrations will show that in many instances, not only were headers introduced at random, but a sparkling and irregular effect was obtained by the laying of some of the brick on edge showing the flat face to the weather (note especially the illustration of the main entrance).

To harmonize with this picturesque blending of brickwork, the stone to be used in the window jambs, facings and muntins had of necessity to follow a like pliable character. Limestone was therefore decided upon, one of pitted and stained quality, uneven of texture, and seamy. In fact, what would in trade be known as the top of the quarry, and which, until recent demand developed, would have been set aside by the owner of quarries in the " discard " pile.

In detailing cusping, muntins, etc., all sharp arrises were carefully avoided; accidental chipping off did not necessitate condemnation on the part of the architect, for, with the proper treatment of the sand blast, the desired surface was obtained.

The rough timber work, and the rough slate, were studied from the same point of view. As to the former, Mr. Allen was most fortunate in finding some old ship timbers that had been abandoned and stacked to the weather for years; also some old skids, forty to fifty feet long, which were originally used in moving houses. These were all carefully measured up and utilized throughout to the best advantage, avoiding wherever possible the marring of the weathered surface either with chisel or plane. Even the warping of the long timber carrying the overhang on the kitchen wing on the northeast of the main front was taken advantage of to produce the sag effect, which is the charm of the real old rural architecture of England, caused, of course, by the want of knowledge or care on the part of the original builders in not providing for the incumbent loads and strains. But why find fault, if the result of time is so pleasing?

In selecting the slate for the roof, again the top of the quarry, in fact of many quarries, was taken advantage of. The unevenness of the split strata, the irregularity of shape and thickness, also the unevenness of color which was the result of surface flows from rain and snow through the æons of time, gave the character wanted. Here, too, must the artisan be congratulated for the pains taken in producing the proper result, though one of the roof setters was heard to remark, " If I had turned out work like this in the days of my apprenticeship, I would have lost my job in a week." He had, without doubt,

been educated in the straight and inartistic path of mechanical precision which is deadening to art.

Each group of chimneys was specially studied, and the bricks used were the same as those employed on the walls of the house. There were no moulded bricks introduced, the forms being obtained by offsetting, twisting and changing at times the start of the pattern, at each course. Examples of this work are found in early French architecture, and others brought to a greater perfection in England during the Tudor and Elizabethan periods when brick was considered a greater luxury.

Second Floor Plan

Having brought out in detail more or less specifically, the kind, quality and manner of bringing the component materials together, it is only fitting to say a few words as to the building, viewed as a whole from the exterior.

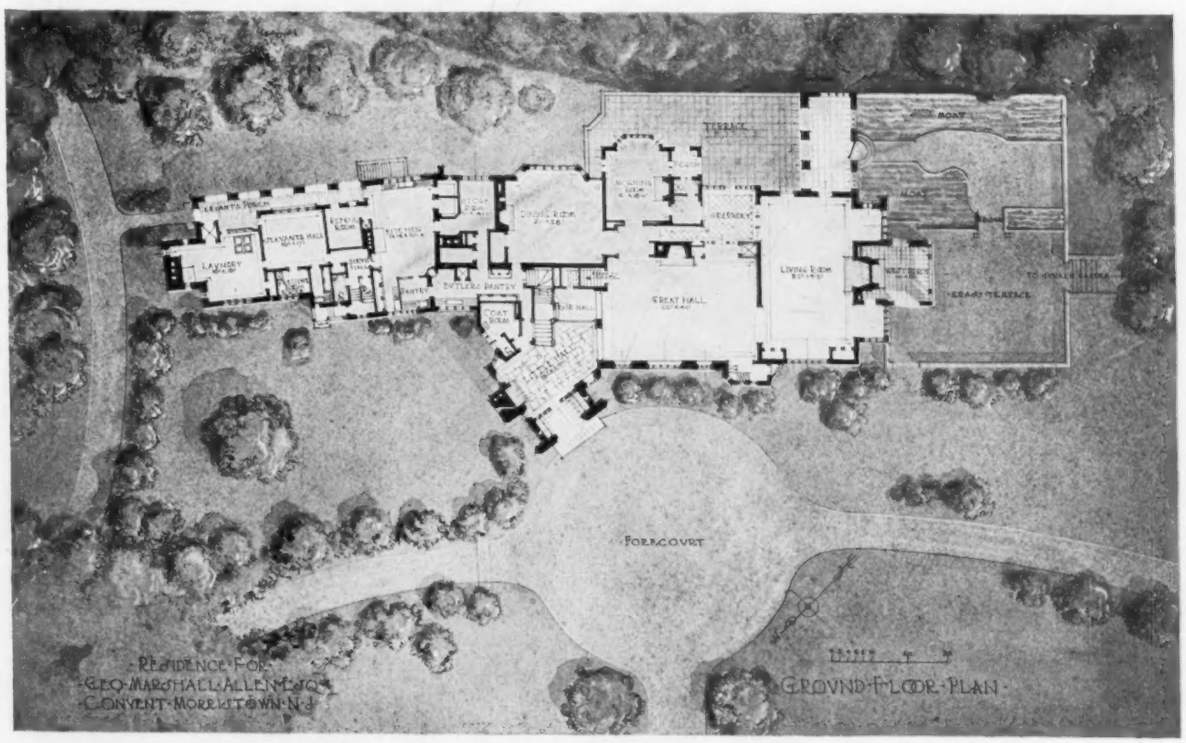
The atmosphere is one of entire repose, restful in color and form, and if a new and unexpected feature is introduced at almost every turn, it is "the doing of the unexpected pleasantly" that gives gratification.

The fact that the lawns, the sunken gardens, the rock gardens, etc., were schemed, planted and cultivated during the five years of the construction of the house, gives the feeling that the house and its surroundings have always been on intimate terms.

With this feeling of pleasure in studying the exterior, it is with trepidation that one enters the house, fearing that the interior will be disappointing. It is, therefore, with extreme gratification that one finds immediately on entering the quaint Little Hall, the sense of comfort and the beckoning hand of hospitality. One sees at once the reason for placing the entrance at an angle, for like an outstretched arm it seems to say, "Come, you are thrice welcome."

That the level here is lower than the Great Hall serves to limit, in a subtle way, the bounds of the casual visitor as he enters.

For entertainment purposes, the arrangement of the stairs is most happily conceived, as a moment's study of the ground plan will show. From the little,



Ground Floor and Landscape Plan

low-ceiling entrance or Little Hall, two steps lead up to the Great Hall, with its lofty timbered and whitewashed ceilings opening through two stories and a half, where one gets a view from the gallery on the second floor level, joining the guests' quarters with the family living quarters, and opposing this view is the brick faced north wall, in the center of which is seen the dignity of the Compton Wynyates windows already alluded to. These windows, in their original "habitat," were only agreeable when viewed externally, but the introduction of this motif in this portion of the house was the happy suggestion of the client. To the left of these windows, and in the oriel bay which carries the tower, is the very quaint stairway leading up to the organ loft. This stairway is particularly worthy of note, for to ascend it one has to start with right foot. As each tread is cut diagonally across so that two risers occupy the space of one tread much space is saved. The precedent for this arrangement can be found in the early French work during and even prior to the Tudor period.

From the Great Hall, one gets a vista through to the morning-room, the greenery and the living-room, all with their sunny exposures, and each of these rooms opening on to the terrace, which has just the proper arrangement of shelter from the direct rays in the cloisters at the west end of the south terrace,

Unique Stairway to the Organ Gallery

Detail of Gothic Tracery in Cloister

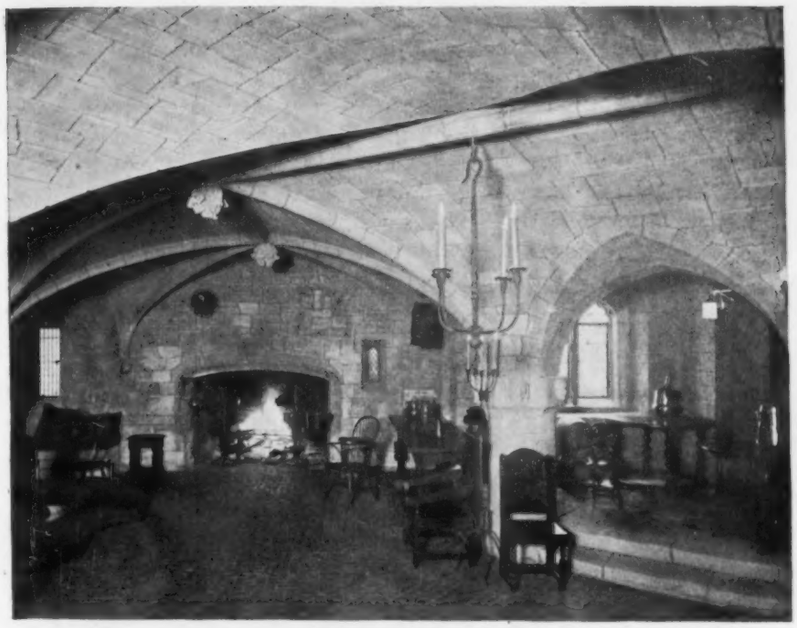
and the covered west porch with its outdoor fireplace, where the great logs can keep up the crackling camp-fire in the early autumnal evenings. Further to the south of the terrace is the ravine, with its wealth of shade trees.

We are informed that there was no scientific or mechanical scheme of ventilation provided for the house, reliance being placed on the arrangement of the rooms to secure the proper drafts through natural laws. In this regard, the living-room is particularly well placed, opening, as it does, to three cardinal points of the compass.

It is also well to remark the peculiar isolation of the kitchen, yet in every way entirely contiguous to the serving-room and the dining-room.

Through the whole of this floor the Tudor style has been maintained, with the exception of the dining-room. The general plan, however, has been adapted to the advanced comforts of the American home, and this applies as well to the layout of the second floor.

The main stairway, tucked in its own spacious offset, has an exclusive atmosphere. From the broad platform, at the head of the first landing, rises the muntined windows, through which a flood of mellowed light pours through the leaded glass, the field of which sustains repliquas of portions of the great windows in Compton Wynyates, and here, too, the



Crypt under the Little Hall

artisan has so ably carried out his work that it takes indeed an expert to find that the glass was not done in mediæval times.

On reaching the second floor it will be noted that the three principal guest rooms are confined to this portion of the house, and though adjacent to the servants' wing, are entirely shut off by a heavy brick wall and fireproof doors, which serve both as sound and fire barriers.

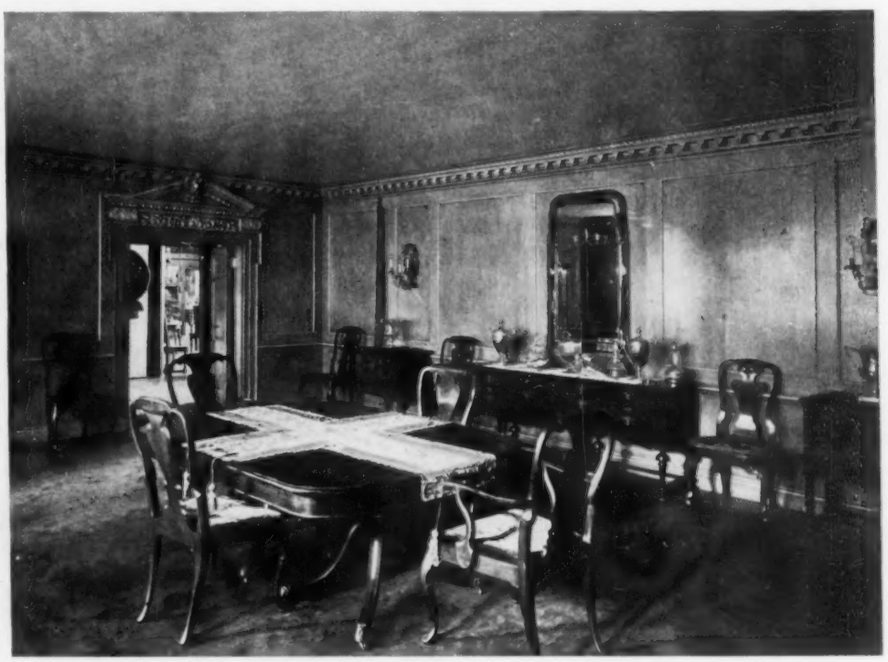
At the farther end of this gallery, from which a most interesting view of the Great Hall is obtained, the family suites are exclusively situated.

The upper or attic floor is arranged for the week-end parties of bachelor friends, and a large photographic studio is equipped with every modern improvement, light and ventilation, where Mr. Allen indulges for hours at a time in his favorite hobby, that of color photography.

Still another little surprise, and though mentioned last, is by no means the least. Leading off the Great Hall under the gallery on the first floor, and just to the right of the main stairway, there is a secret door formed in one of the panels of the high wainscoting. After touching a hidden spring, which releases this door, and after the eye is accustomed to the dungeon-like darkness, one finds a circular well worn stairway leading to the crypt below. This is indeed a veritable crypt, and its stone walls and vaulted early Gothic arches support the superstructure above, which in this case is the Little Hall. The floor is of stone and misshapen tile. The feeling of dampness, which one had on entering, soon is dispelled, for on turning a corner and descending a few steps to another level, the roar of a fire greets you, burning in a fireplace broad enough to take, at one time, many logs over six feet long.

The illusion at night is most fanciful, and at the same time realistic, for in the areas which admit the light through the obscured Gothic windows, electric lights are so placed as to send forth a glow to give the feeling of moonlight.

Shortly after the completion of this stone crypt, and further to convince Mr. Allen that with extreme care, even the wood carvings on the barge boards of the gables could have all the tempered feeling of age, Mr. Berg relates a pleasant little piece of deception he played on his client. It appears that Mr. Allen had fortunately come into possession of a



Dining Room Looking Toward Great Hall

carved wood lintel that had at some early period of one of the restorations of Compton Wynyates, found its way into the lumber pile. Desiring to copy this, Mr. Berg obtained permission and had his client initial and date this old (?) fragment on the back. Several months after, two carved lintels were shown, and to Mr. Allen's surprise he found that formerly he had initialed the copy, and not the original as he had previously supposed.

This experiment, though successful, was doubtless a costly one for the architect, the standard being set so high, it became at times, difficult to live up to.

Many details from Compton Wynyates have been followed as closely as possible from measured drawings, many of which were made by Mr. Berg when in Europe just prior to and at the time the war broke out in the early days of August, 1914. He spent many weeks in Worcestershire, Warwickshire and Gloucestershire, for the special study of the refinements of the Tudor domestic architecture of the Renaissance.

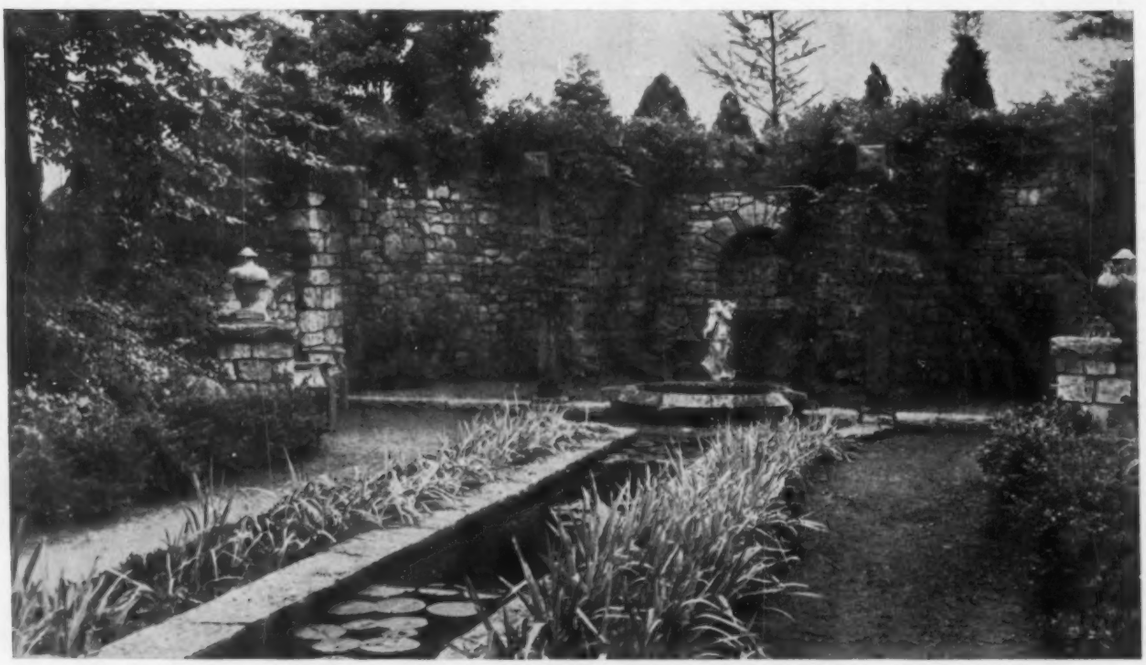
The principal portions, Mr. Berg states, which are copies from Compton Wynyates, are the main entrance, the group of five windows or central feature to the right of the entrance, and which give on to the Great Hall on the north elevation, and also the large second-story bay on the south elevation leading off the morning room on the first floor.

Copies of these features were made by special request of the owner, but they do not in any way find their relative location in their new home.

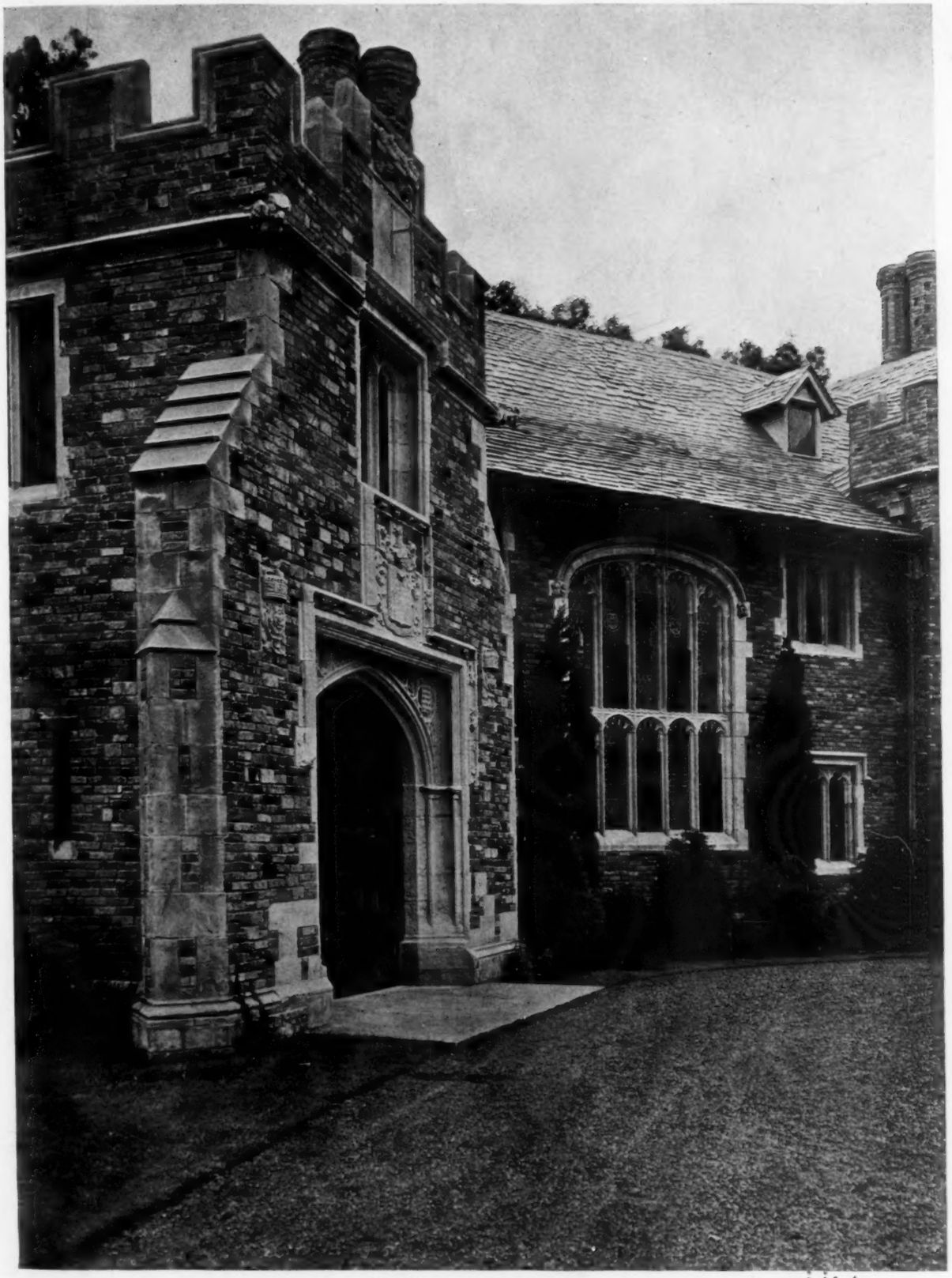
The main entrance is an exact copy in all details as nearly as possible, except that the family coat of arms replaces the arms of England. Below, among the carvings, can be seen the rose of England and the pomegranate of Granada, interlaced, so history tells us, as an international satire on the union of Henry and the unfortunate Queen Catherine. On each side of the stone lintel to the entrance door, are the Tudor roses with crowns. In the spandrels are, on one side of the portcullis, a badge of Henry VIII, and on the other a badge of Catherine of Aragon, composed of the Castle of Castile, the pomegranate, and the sheath of arrows, the badge of her mother, Isabella.

In the accomplishment of the Allen house, with its copied features, its new features, and the many varied and modified features, and in adapting all to the requirements and the necessities of the present-day home, there was required the most hearty co-operation, not only between the architect and his client, but of each and every artisan and mechanic employed in its construction, with the result that we can quote from the present Lord of Compton Wynyates, William, Marquis of Northampton on his ancestral manor:

"Infinite care was taken, much time was spent on the family home. The fancy of a man of taste was gradually carried out, and thus we have irregular, but quite harmonious architecture; a lovely contour, every detail in the best style; the whole in a wonderful setting combining to make a picture which all must admire, and which the happy possessor may be pardoned for calling a vision of beauty."



Fountain and Pool in the Sunken Garden



DETAIL OF MAIN ENTRANCE

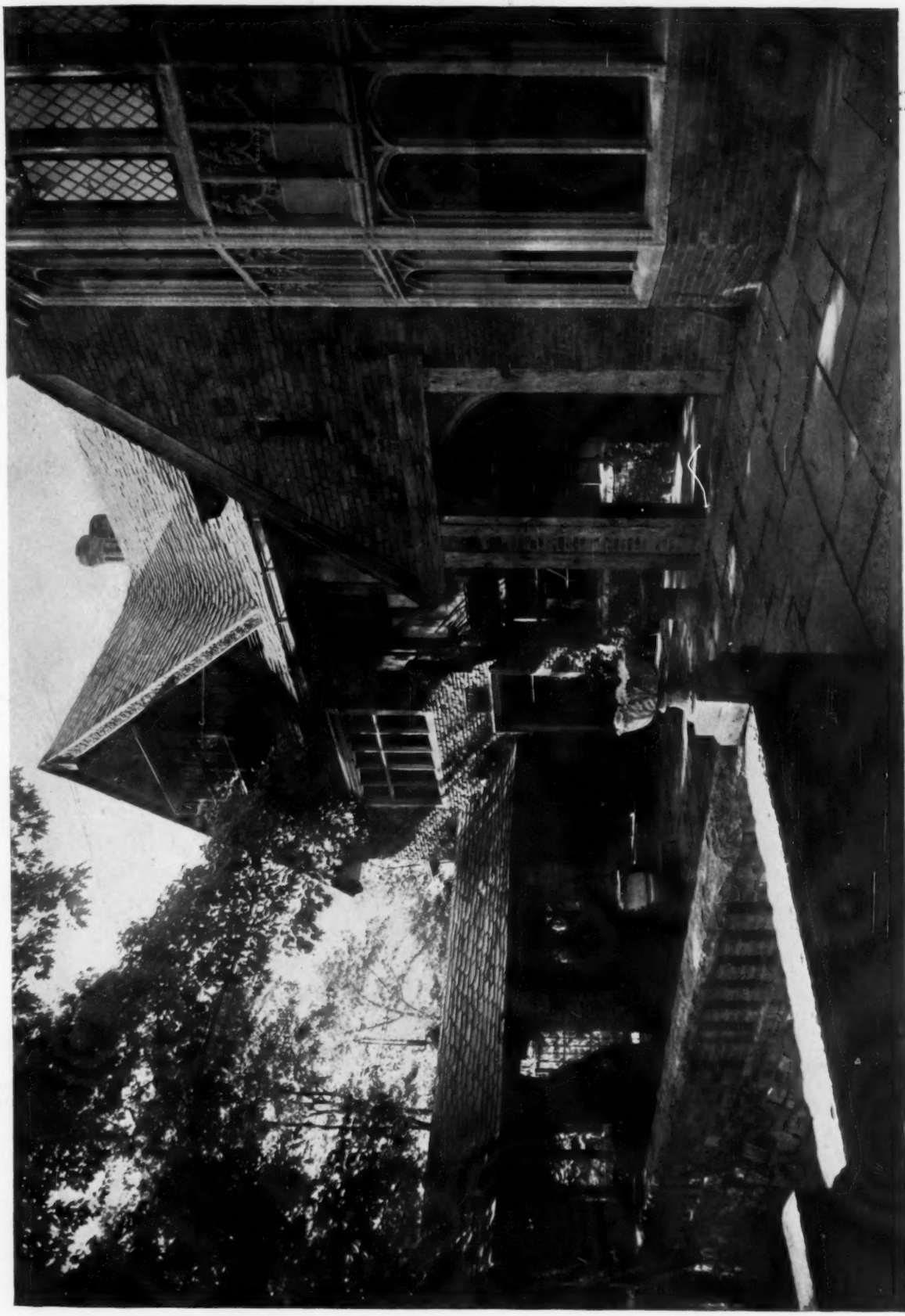
HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.

CHARLES I. BERG, ARCHITECT

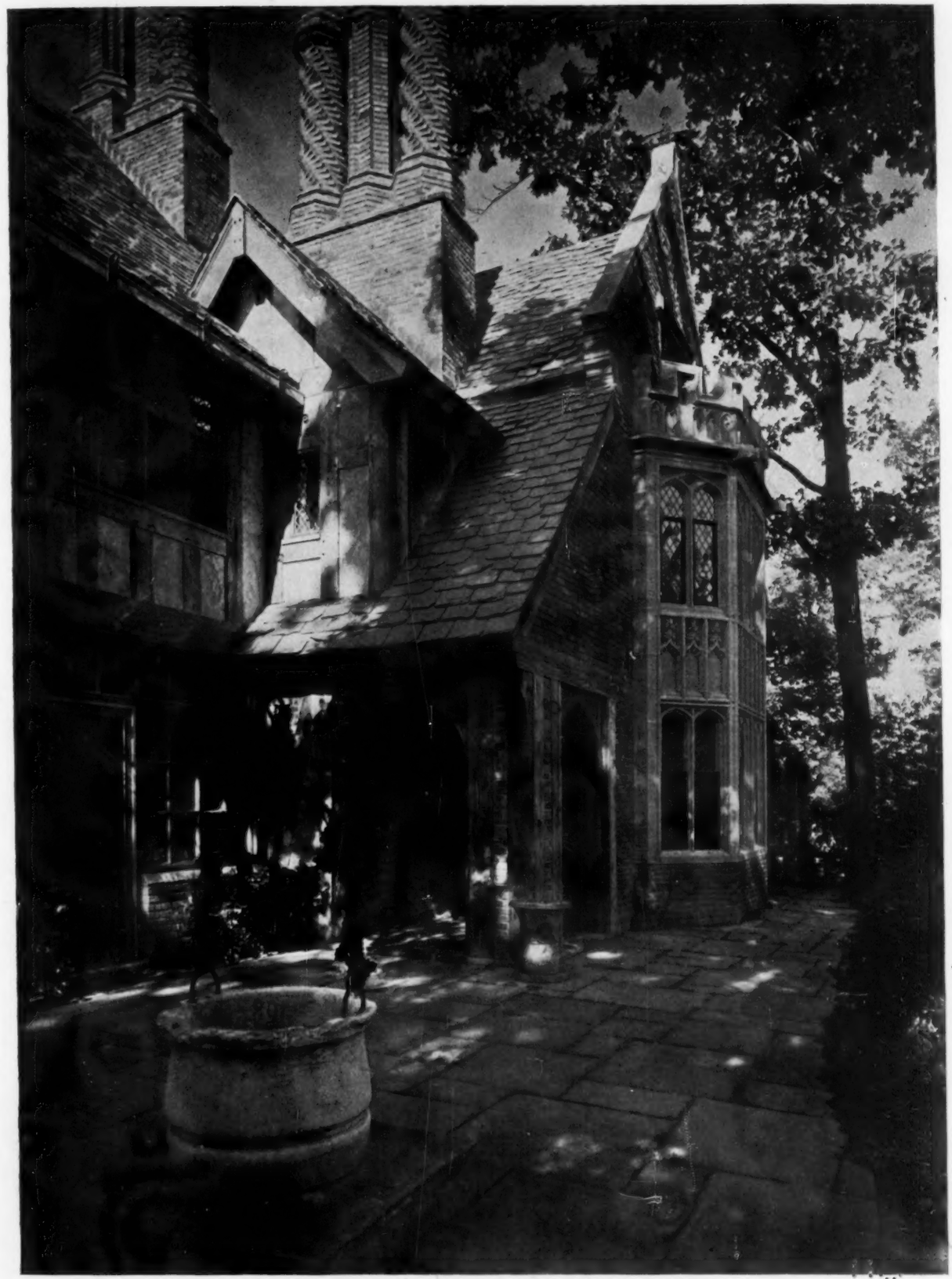
VIEW OF MAIN PORTION OF ENTRANCE FRONT

HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.

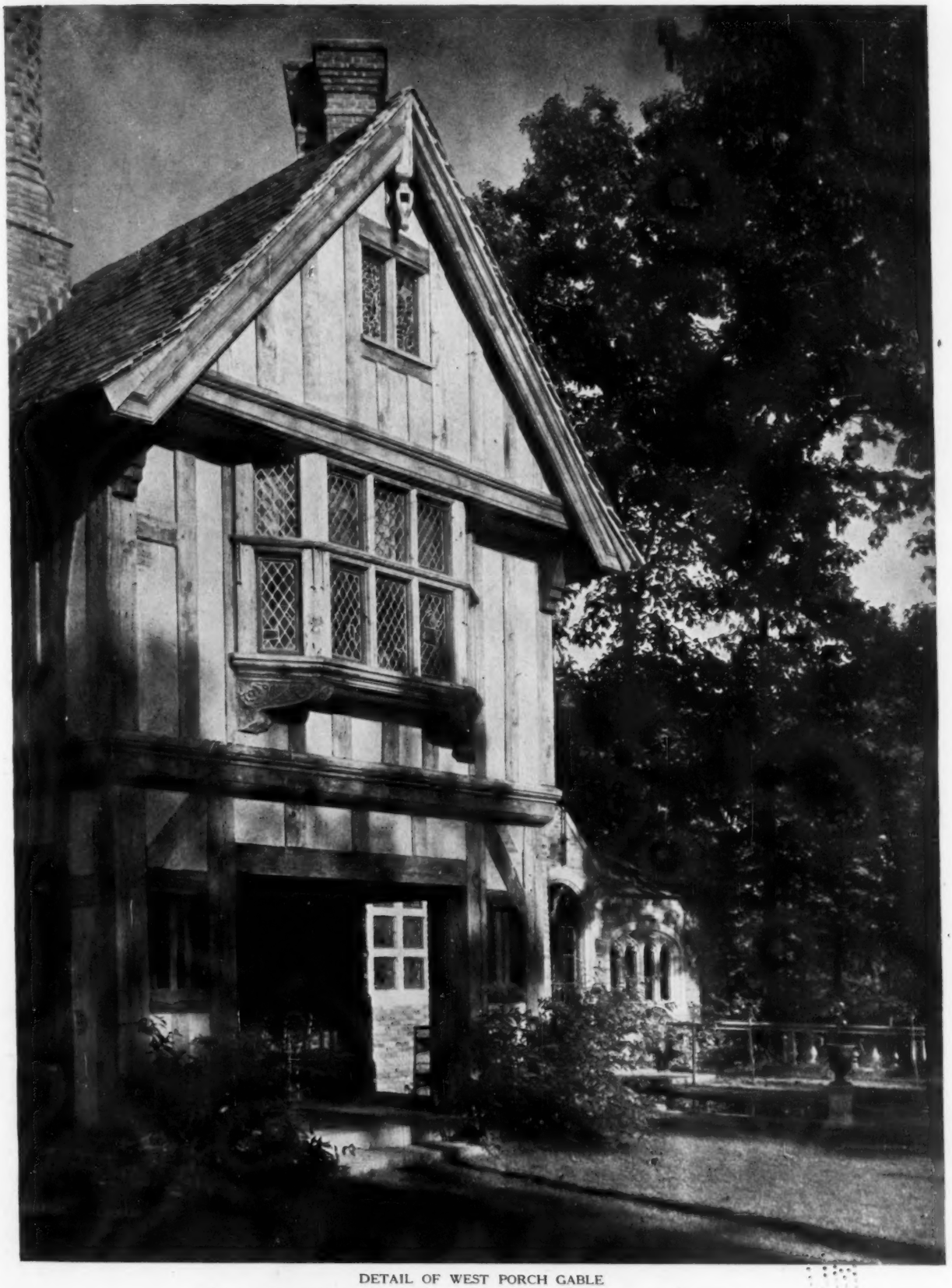
CHARLES I. BERG, ARCHITECT



DETAIL OF TERRACE SIDE, LOOKING TOWARD CLOISTER PORCH
HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.
CHARLES I. BERG, ARCHITECT



DETAIL OF TERRACE SIDE, SHOWING MORNING ROOM BAY
HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.
CHARLES I. BERG, ARCHITECT

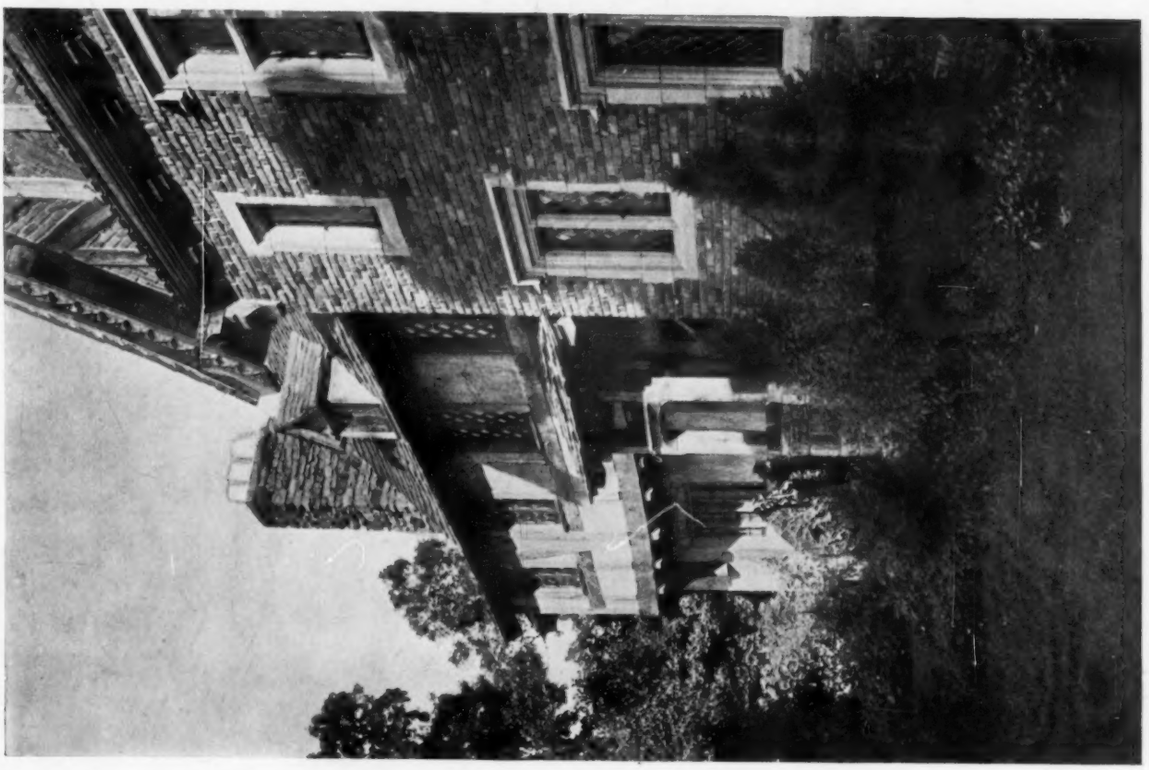


DETAIL OF WEST PORCH GABLE

HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.

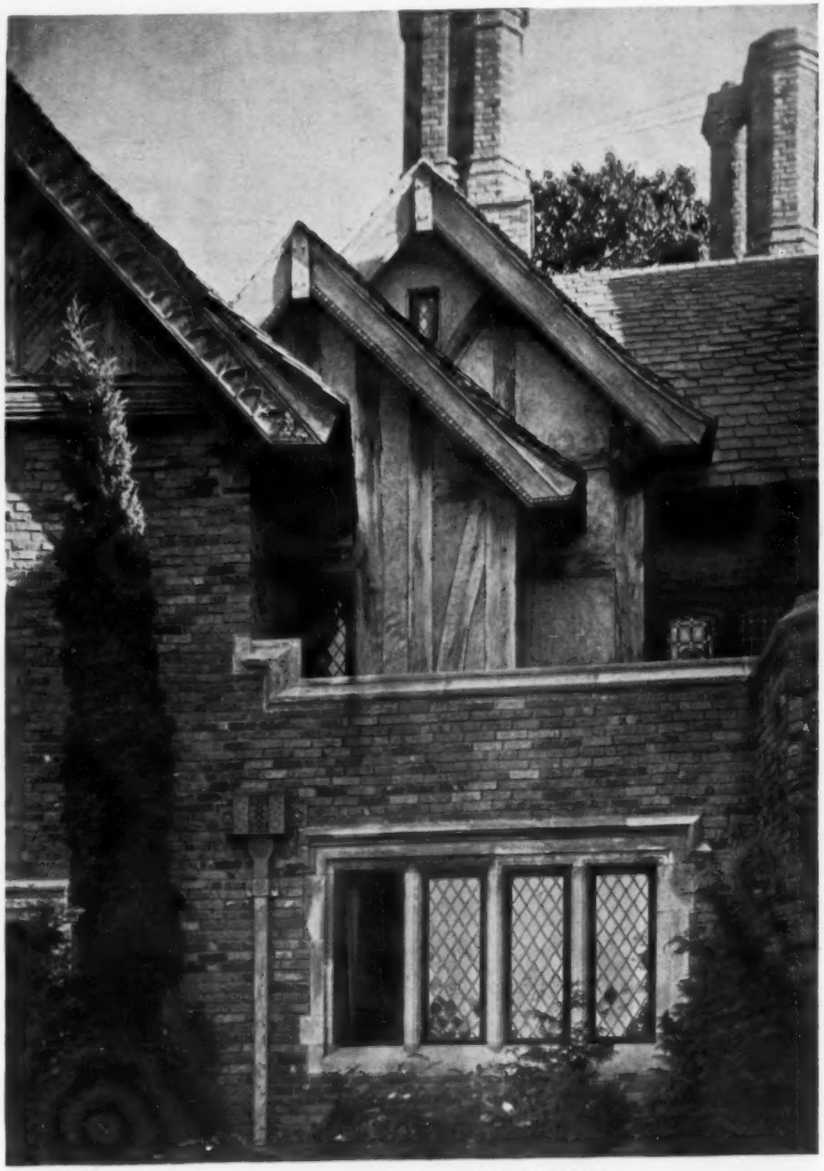
CHARLES I. BERG, ARCHITECT

DETAIL OF LIVING-ROOM GABLE, TERRACE SIDE



VIEW OF SERVICE WING

HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.
CHARLES I. BERG, ARCHITECT



GABLE GROUP ON ENTRANCE FRONT

PORCH ON SERVICE WING

HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.

CHARLES I. BERG, ARCHITECT

INTERIOR OF GREAT HALL
HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.
CHARLES I. BERG, ARCHITECT

NORTH WALL OF GREAT HALL
HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.
CHARLES I. BERG, ARCHITECT

DETAIL OF FIREPLACE UNDER GALLERY IN GREAT HALL
HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.
CHARLES I. BERG, ARCHITECT

VIEW OF LITTLE HALL LOOKING TOWARD GREAT HALL

LITTLE HALL SHOWING FIREPLACE AND STAIRCASE

HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.

CHARLES I. BERG, ARCHITECT

MANTEL IN LIVING-ROOM

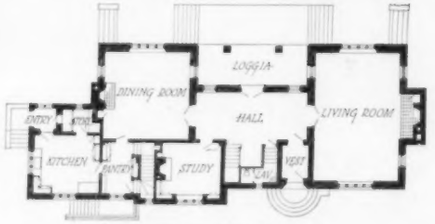
MANTEL IN DINING-ROOM

HOUSE OF GEORGE MARSHALL ALLEN, ESQ., MORRISTOWN, N. J.

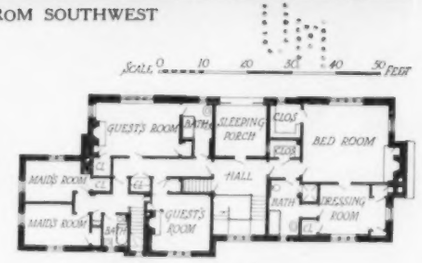
CHARLES I. BERG, ARCHITECT

DETAIL OF ENTRANCE FRONT

GENERAL VIEW FROM SOUTHWEST



FIRST FLOOR PLAN

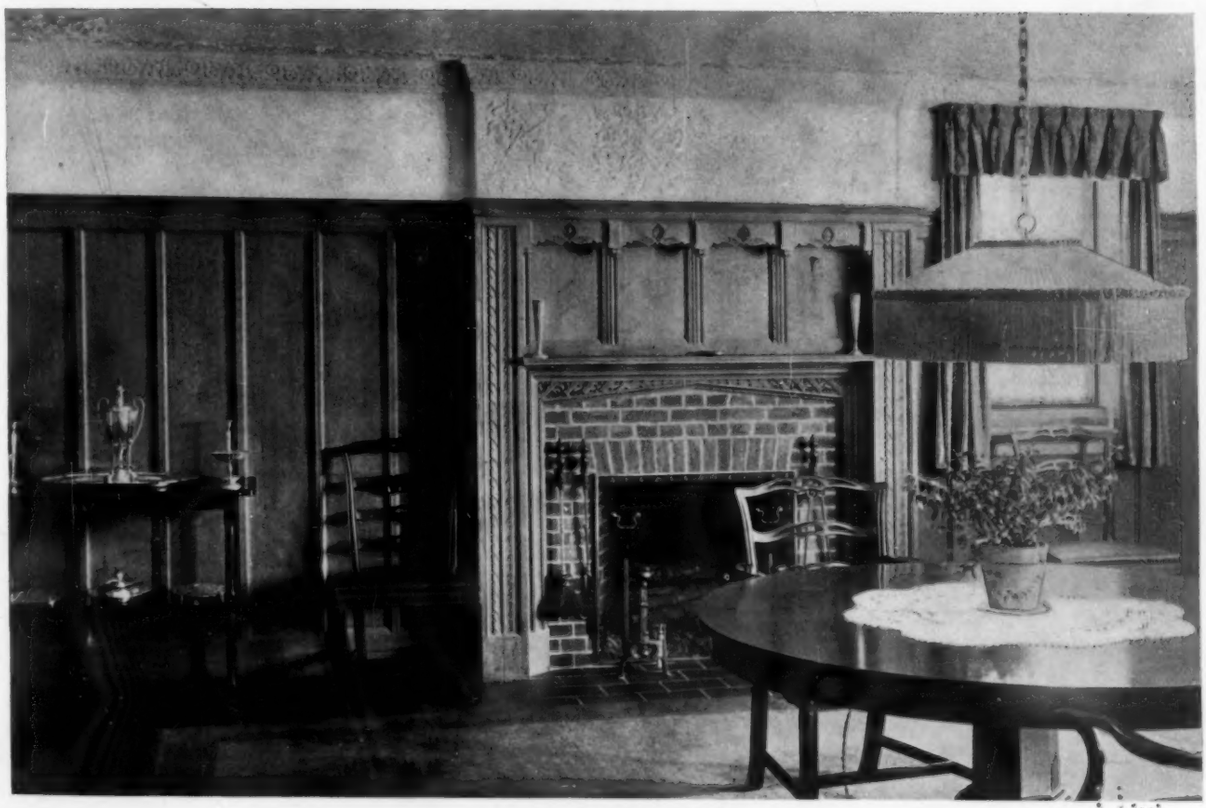


SECOND FLOOR PLAN

HOUSE OF CAVOUR HARTLEY, ESQ., DULUTH, MINN

BERTRAM GROSVENOR GOODHUE, ARCHITECT

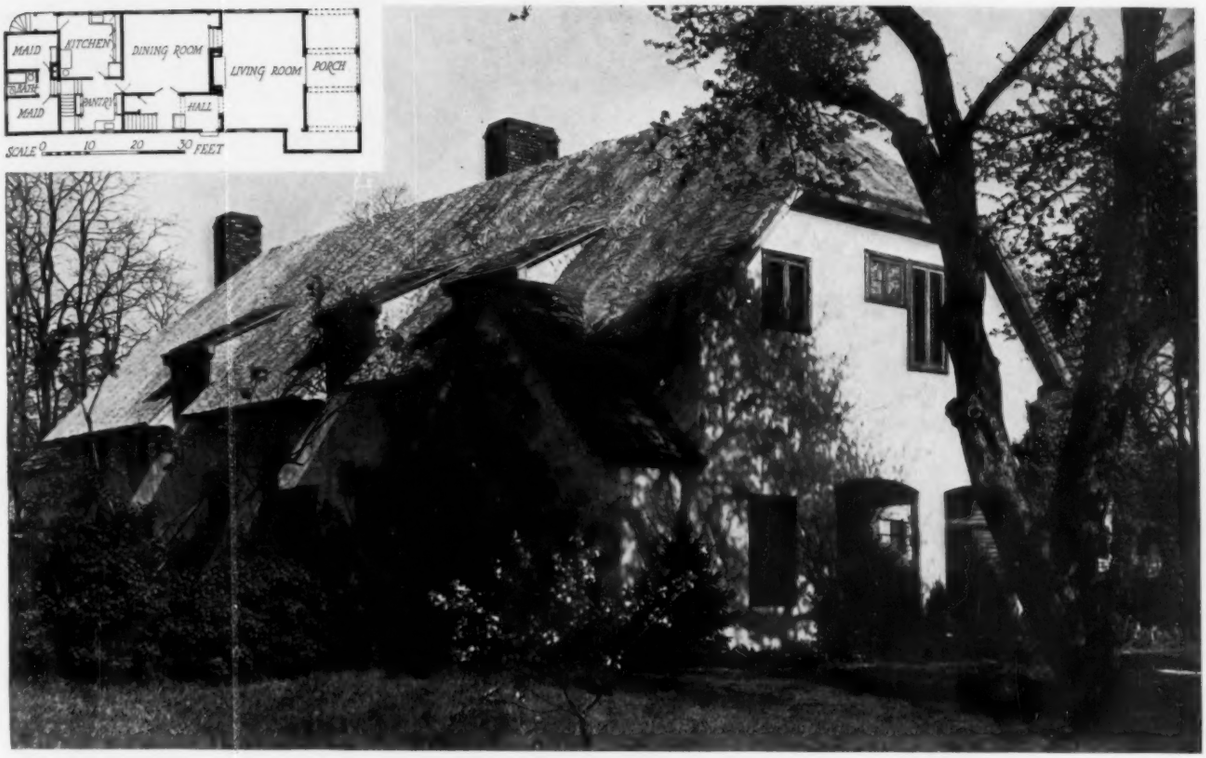
FIREPLACE IN LIVING-ROOM



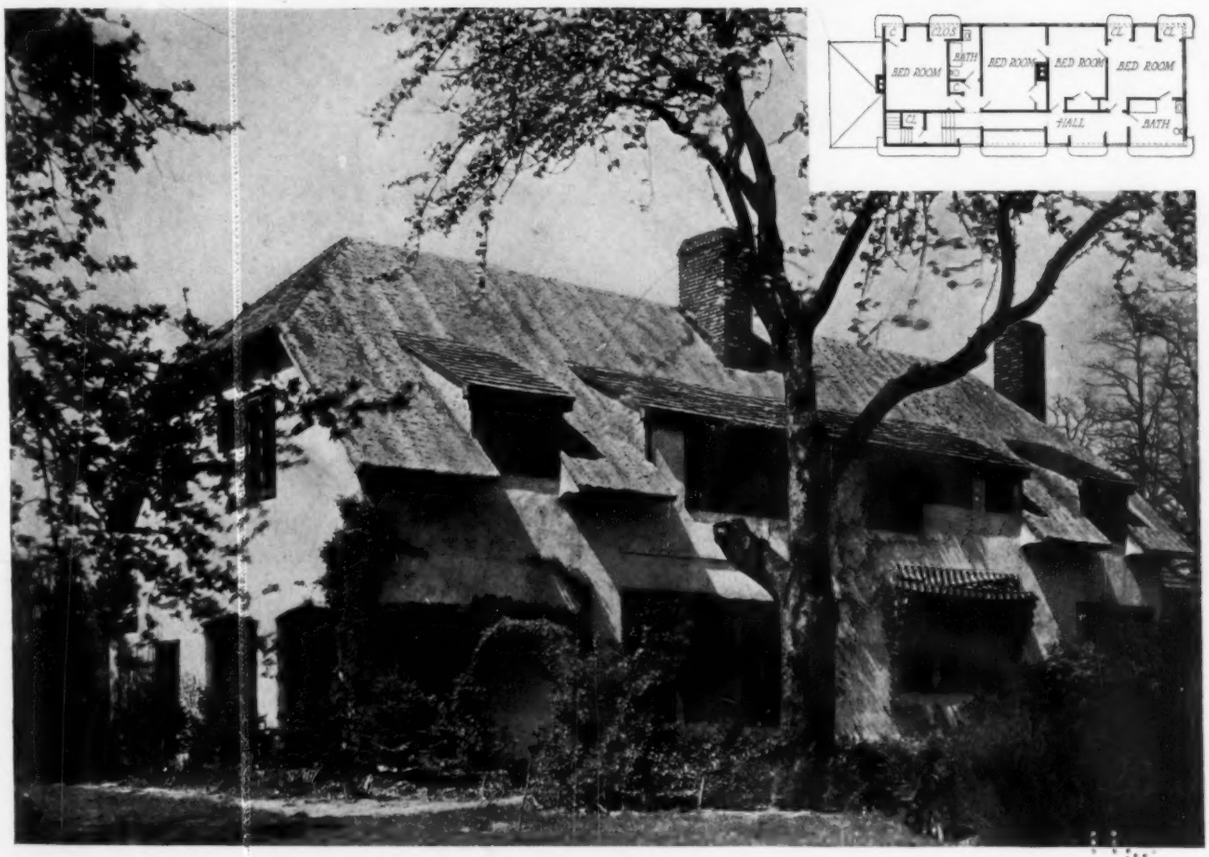
VIEW OF DINING-ROOM

HOUSE OF CAVOUR HARTLEY, ESQ., DULUTH, MINN.

BERTRAM GROSVENOR GOODHUE, ARCHITECT



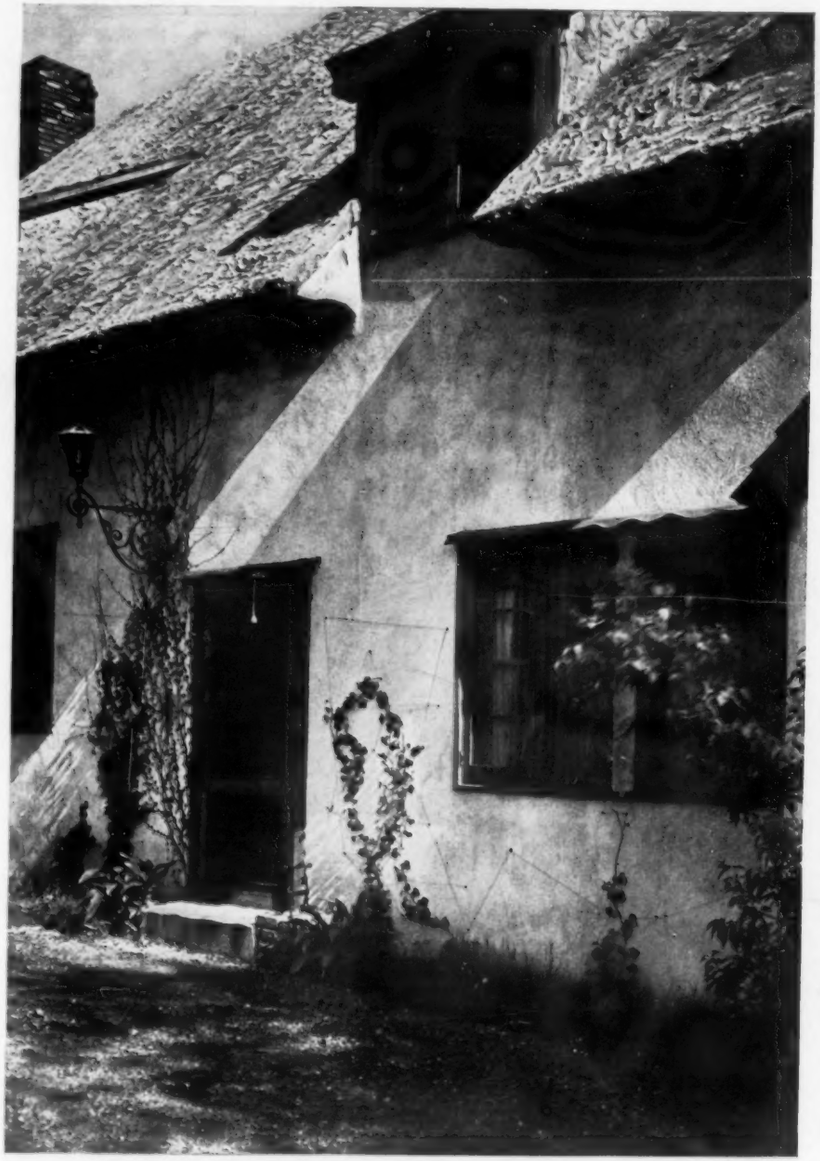
VIEW OF ENTRANCE SIDE



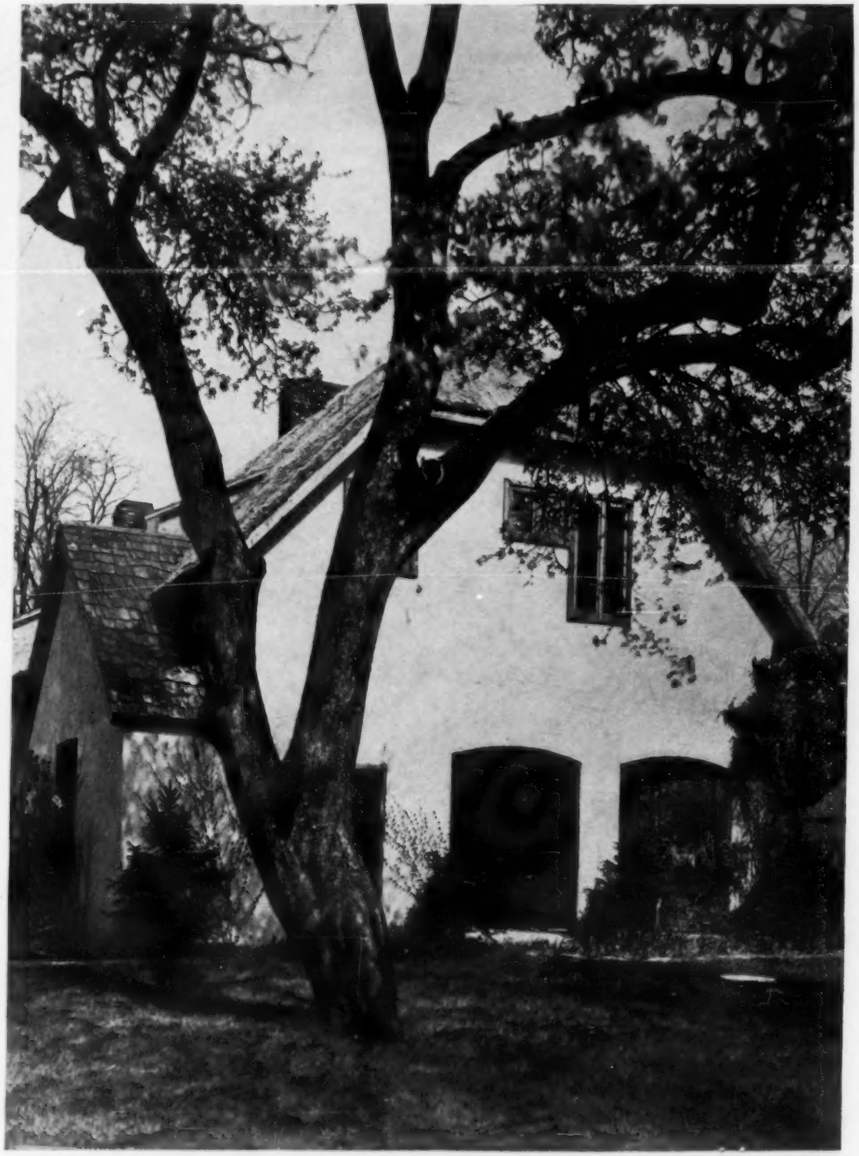
VIEW OF GARDEN SIDE

COTTAGE OF MRS. W. K. VANDERBILT, JR., HICKSVILLE, LONG ISLAND, N. Y.

WARREN & CLARK, ARCHITECTS



DETAIL OF ENTRANCE SIDE



DETAIL OF PORCH AND GABLE

COTTAGE OF MRS. W. K. VANDERBILT, JR., HICKSVILLE, LONG ISLAND, N. Y.

WARREN & CLARK, ARCHITECTS

Recent Distinctive Schoolhouses in California

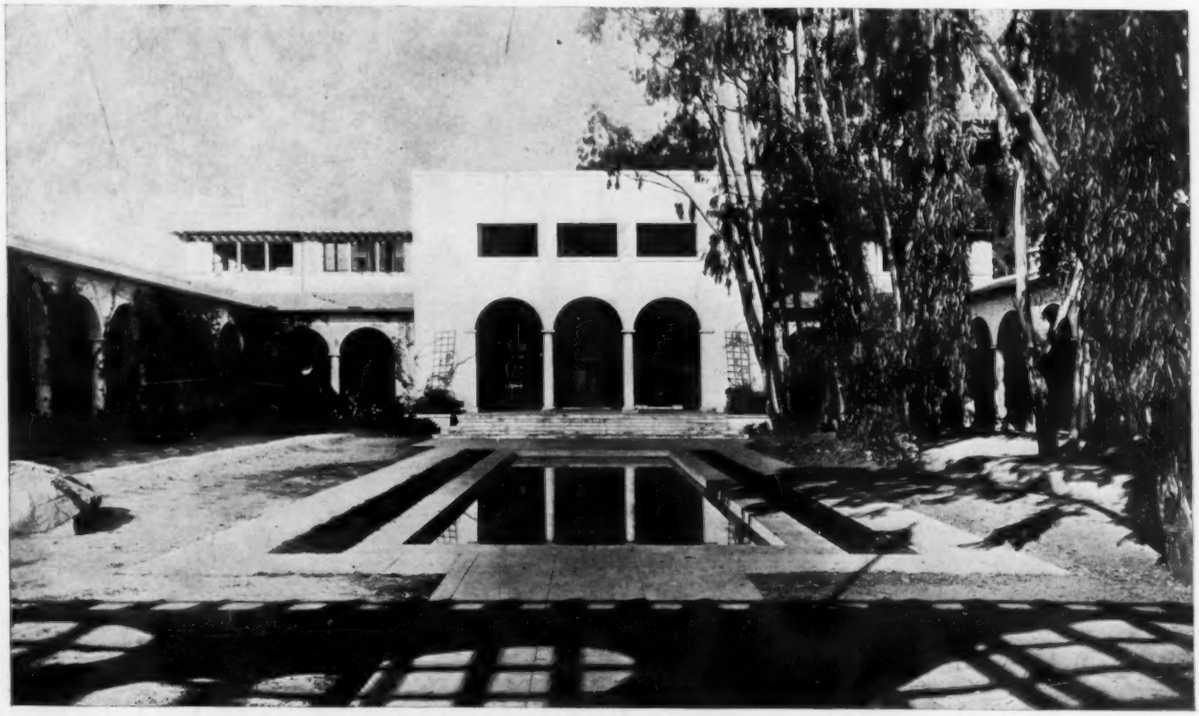
PART II

By WILLIAM C. HAYS

IT is not the common belief that Californians are reticent of the claims of their home towns. It may be wondered at, then, that three articles,* written by a San Francisco architect and treating of California schools have made so little mention of local examples. But there is good reason for the omission of San Francisco public schools in illustrating "progressive" school buildings. It must be frankly admitted that the dearth is one of necessity, not of choice. Most of the schools in San Francisco would be equally suitable in almost any city in the land — outside of California — for they are almost without exception of the conventional type found in localities of cold climate, granting which type, the newer buildings are well done. Some light may perhaps be thrown on the situation by quoting from a dedicatory speech at one of the schools, when, the orator, a well meaning member of the Board of Education is reported to have said "We have now came to the beginning of the nineteenth century." If some of the powers-that-be seem not to know, or understand, the work done by those who have thought seriously of the subject of school building; if the type of architect formerly engaged has been the political appointee; and if the commission to design schoolhouses used sometimes to be one of the "plums of patronage" — San Francisco, of American cities, has not been alone. And fortunately the designing of the city schools is now in the best of hands.

But aside from all other considerations, there are topographical problems in many parts of San Francisco which would limit the newer, "open" type of schoolhouse, even if more appreciative authorities stood ready to *build* such a scheme. San Francisco occupies a site which, in at least one respect, is far from ideal for a great city: the proportion of steep hills in relation to the level lands is too great. Already the total flat areas, as well as the districts of slight slope, are too meager to meet the needs of industries, business, and those other features of civic life which must be closely co-related. For this reason, among others, many of the residence sections clamber up steep slopes and hillsides. To be sure, this condition gives unexcelled outlooks for the many families so fortunate as to have commanding sites for their homes, but it has the corresponding drawback that such places are not easily accessible. The conformation

The Architectural Forum, July and September, 1917 and November, 1918.



View of Patio, State Normal School, Santa Barbara, California
Designed by California State Bureau of Architecture

of San Francisco is such as, by comparison, flattens the famous "seven hills of Rome" into insignificance. But in Rome the streets are, to some extent, laid out to follow the contours. In San Francisco, on the other hand, back in a period of not remote antiquity, some inspired idiot, with T square and triangle, laid down a checkerboard plan, superimposed regardlessly over the natural slopes. Such a plan gives rise to almost impossible street gradients, while it makes building plots which have the extreme of warped and twisted surfaces. Naturally, a small building can be placed on such lots more readily than can one larger. And in the residence districts only is found the "school population." It is obvious that in many quarters where there is school population, suitable sites for school buildings are rare, and these at the best are so restricted that extended plan forms are not economical, even if possible.

There is one other reason for the scarcity of "open air" schools in San Francisco: (damaging admission!) the climatic conditions are against them. California is a country of delightful surprises: a land masculine in convictions; feminine, quite, in contradictions. Lying in the temperate zone, the climate is that of the "wet-and-dry" seasons really belonging in the tropics. Spring, summer, autumn, winter — for the *coast* of California — these are of the almanac only and not of human experience. But the "wet season" — unmentioned in propaganda — is in experience very real indeed, and very wet. Then there come the fogs from sea and "tule," which, though they do not last long, come during several of the school months. The open air type of school building, ideal for two-thirds of the time, would prove impracticable in bad weather.

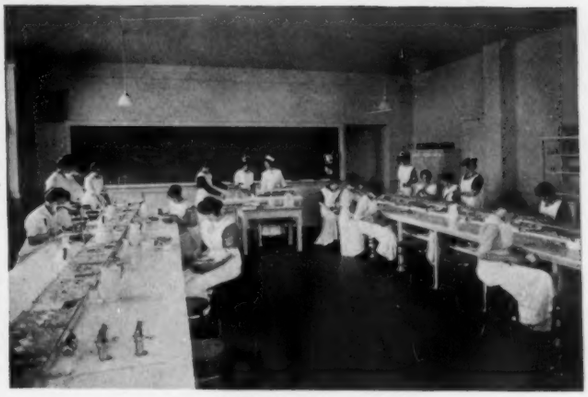
But it must not be assumed that no thought is given to what *may* be done. There are other conceptions of the modern school problem in addition to that of "fresh air": as, for example, the form, finish, color and equipment of rooms in buildings that in plan are not unusual. One such new school designed with this other thought is the Lux School of Industrial Training, one of a group of three endowed vocational institutions for whose buildings the writer is the architect. Of the affiliated schools the California ("Lick") School of Mechanical Arts is an endowed manual training high school for boys, the Wilmerding School of Industrial Arts is virtually a building trades school for boys, and the Lux is a vocational school for girls. Although there was, originally, no interrelation of these institutions, a similarity of aim has drawn them together, so that now their affairs are administered by interlocking Boards of Directors, and the three institutions have their directing head in common. The "Lick" and Wilmerding schools antedate the Lux, and had grown so closely related that their Boards bought land in common when new buildings were proposed. The Lux funds later becoming available, that Board entered, and took over one-third of the land for their building. The architect's problem, therefore, was the planning of a group of buildings to house the schools independently (keeping the Lux building on its own land) and to provide a unit for administration, auditorium and library in common. Of the group, only the first building for the Lux school is yet up, although plans have been under way for the administration building and one other unit in addition, of course, to the general plan. The unconventional elements in the Lux School are *not* in the architectural scheme, which is, indeed, conventional, barely escaping being commonplace.

Lux School of Industrial Training, San Francisco, California
William C. Hays, Architect

It was the thought of the authorities that, while vocational training should be a distinctive feature,

may be said, with force, that this Board

Laundry School



Cooking Laboratory

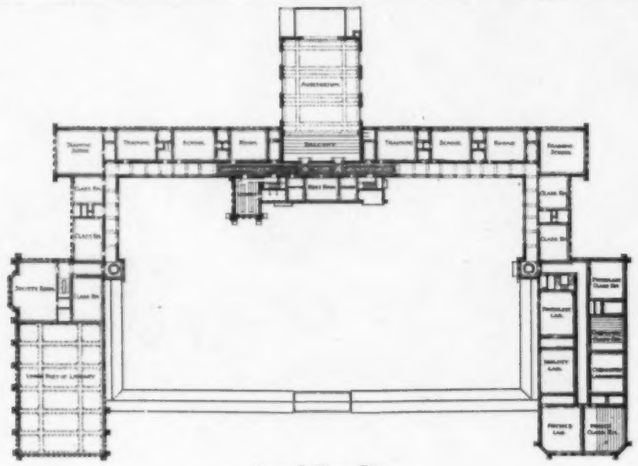
the school's functions included, as well, high cultural development: that this latter result might best be accomplished through the medium of surroundings: and that to this end the interior of the building should be considered particularly as to the esthetic side. With this idea uppermost, home conditions have been approximated in the rooms intended for some of the courses. So the teacher's rest room, for example, has been designed as a model bedroom with its private bath; the teacher's dining room approximates the dining room of a private house suited to people of limited means—and it is part of the training that every girl shall take responsible care of these rooms, as though in her own home. The room devoted to household art is designed and furnished as a living room, and there is in it no visible suggestion of classroom. Instead, there is a domestic-looking fireplace, made for use, *and used*. Committee meetings are held in this room and there are social functions, at which small groups of pupils entertain the teachers, trustees and interested persons, after having made in the cooking room the things which they are to serve. One part of their organization administers a cafeteria, in which all take turns both as manager and in the various grades of assistant. While this is no unique point of view, there have been few school boards courageous enough to show their faith by their works; and it

Household Art Classroom

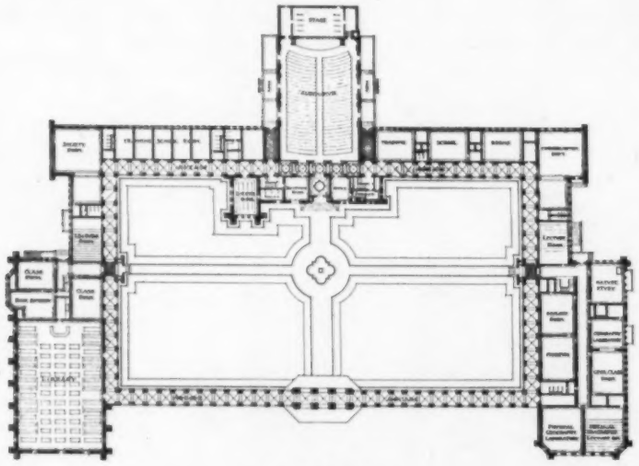
Teachers' Dining Room

Teachers' Rest Room

Interiors of Lux School of Industrial Training, San Francisco, California
Showing Fittings for Practical Instruction in Household Arts



Second Floor Plan

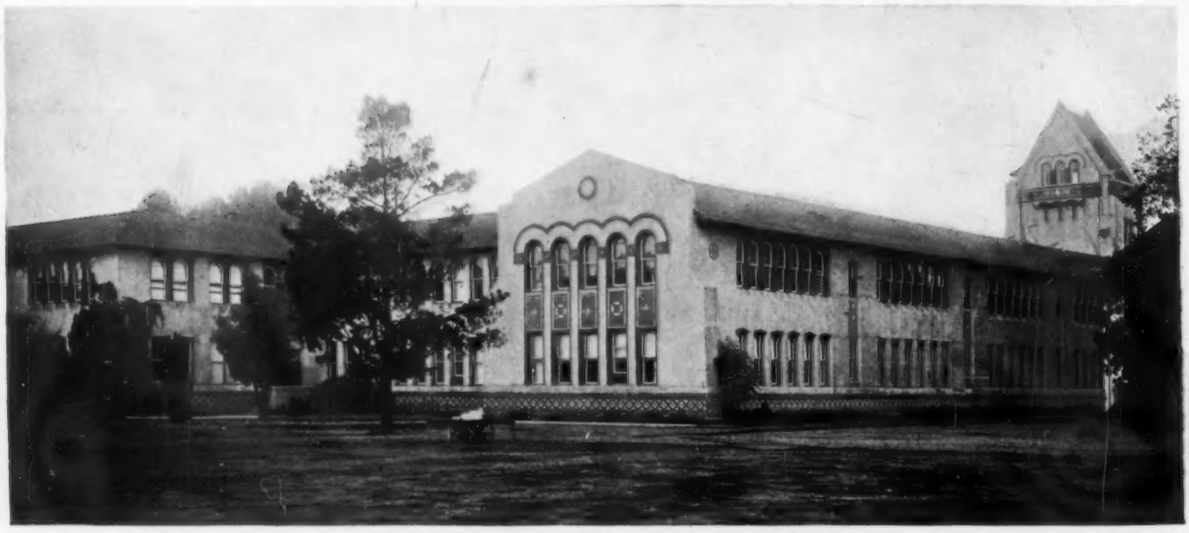


First Floor Plan

State Normal School, San José, California

may be said, with force, that this Board has more than justified the faith that was in them. One need only compare the entrant and graduation classes to sense the subtle influence which has inhered in environment, personal and physical, during the training period of these girls, notwithstanding that much of their time has been spent in activities commonly called "menial," or "household drudgery."

In general scheme the layout of the building is simple. The first floor contains administrative offices, chemistry and physics department, coat rooms and teachers' rest room; the second floor is given up to household arts, including drawing, home furnishing, dressmaking and millinery; a third floor deals with the physical side, — and here are the cooking school and cafeteria, the rooms for physiology and hygiene and a large locker and shower room. On each floor there is a general lecture room, as well as a central assembly hall, long corridors being eliminated from the scheme. From the central hall of this third floor a stairway leads to the sheltered roof garden and here, in the open, practically all the games, dancing and physical training take place. Part of the space is roofed over, for rainy weather. Much importance is given to this open air feature, and, a large part of the school life having had its setting here, it is the natural place for holding commencements and other ceremonies. The entire area



View of External Angle Between Auditorium and Laboratory Wings

State Normal School, San José, California

Designed by California State Bureau of Architecture

in the previously published articles on elementary its entirety any problem into which the element

is encircled by a pergola having an outer wall, while the inner side is a colonnade of stoutly proportioned Doric columns, with beams over. Cast cement flower pots at intervals hold soil for the rooting of vines that climb over the latticed top.

Entrance to Court of San José State Normal School

California has recently built three excellent state normal school buildings. Of these, that at Los Angeles, the work of Allison & Allison, is already well known and has been fully published.* It is not out of place to note here, however, that in a recent competition instituted by the members of the Southern California Chapter of the A. I. A. this normal school group was awarded the medal as the most distinguished building (in classes other than residences) constructed in the territory of the chapter within five years.

The other two normal schools are situated, one at San José and the other at Santa Barbara. Both have been carried out under the direction of the Bureau of Architecture of the State Department of Engineering. While this relationship is an abnormal one and has the elements of a most unsatisfactory, if not impossible, state of things, here the successive heads of the State Department of Engineering have had the good judgment to leave the Bureau of Architecture to itself.

The land set aside for the San José building is extensive, flat, contains a nunber of old trees and has a handsome shaded avenue of approach. The prolongation of this avenue is the main axis of the composition. The buildings, with their cloister, enclose a spacious courtyard on three sides, the fourth side being screened by an arcade and an entrance motive of tall arches. The plan has three main divisions, that on the central axis being the conventionally placed administrative offices, adjoining the entrance, with the auditorium behind them. The forward portions of the two wings are, on one side the library, and on the other, the science departments. Placed between the central element and the projecting wings are the usual training school and classrooms. The building is two stories in height, with outdoor circulation, but its distinction consists less in arrangement than in its charming architectural quality. Although the group is in plan composition — except for the tower — symmetrical, it has yet great variety and picturesqueness. It is so beautiful in color and detail, and is so wholly satisfying, that one cannot let the credit for so "personal" a work rest with the impersonal machine — a Bureau of a Department of a State government. That Valere de Mari's was the mind in which this charming composition took form, and his the hand under which it unfolded, reflects credit on the Chief of the Bureau, whose wisdom gave Mr. de Mari's fine inspiration this outlet, to the durable gain of the State.

In the main outline of its plan composition the Santa Barbara Normal School bears a little resemblance to San José; that is to say, it has a cloistered patio with buildings upon three sides. The fourth side is only partly enclosed, but has a well designed arcade which extends all the way across the ends of the wings, as well as through the width of the patio. Unlike the plan of the San José school, the patio at Santa Barbara is entered on its short side, and the sense of length is thus enhanced, but neither the courtyard nor the building is so large and impressive. The idea here was to put emphasis on the value of intimacy and informality, even though the composition is itself purely formal and symmetrical. The existence of several tall eucalyptus trees helped much in bringing about this result. The trees, as well as a big boulder, were left as they were, and the buildings, with the central pool, were skilfully composed around and between them. Into this quiet, sheltered place is surely embodied much of what we deem "of the spirit."

The central part of the building, opposite the entrance, extends through a second story and, on the patio side, has a loggia overlooking the attractive foreground. The two wings are one story in height.

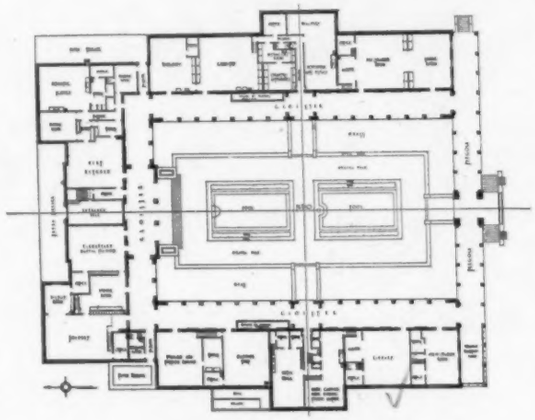
It will be noticed that all three of these normal schools are designed on the principle of open courtyards, with open air circulation. As pointed out

*See *The Architectural Forum*, April, 1917

in the previously published articles on elementary schools, this idea of building was favored by the early Californians. Among their buildings, the examples of this sort are many; as at Old Monterey in the Convent, the Pacific House, and the Washington Hotel, as well as elsewhere, in all of the early Missions. Adherence to a cloistered type of building for schoolhouses in California is both logical and based upon sound tradition.

But how much weight shall we give to "tradition"? What of the evolution of an idea? These examples of new schoolhouses we study, expressing as they do, though ineffectually, the ideals of our own day. What the near future may hold, who may say?

For no living question can be studied at any given time excepting within the limitations of present knowledge and experience. If one would consider in its entirety any problem into which the element of time enters, one must give equal value to the three essential divisions of time, for time itself is complete only when there has been included time passed, time to come, and the present moment. We may, therefore, neither honestly nor wisely place emphasis on either tradition or prophecy, but must recognize that time's movement ever demands flexibility in the meeting of those problems that, moving on, keep step with the years. In our own day having dared to question the works, and thereby the wisdom, of our forebears and having brushed aside their judgments — as generations did before us — shall *we* presume to set up our own little theories as authoritative over the posterity of ages to come, who doubtless, in their turn, will be far wiser than we?



Floor Plan of Santa Barbara Normal School

View of Entrance Side of Patio
State Normal School, Santa Barbara, California
Designed by California State Bureau of Architecture

The Offices of Starrett and Van Vleck, Architects, New York

By H. A. MAYNE

SYSTEM is just as essential in the office of the architect as it is in any business office where the paramount aim is to give satisfactory service. The kind of service which the owner is to receive from his architect is governed in a large measure by the policy established by the architect for the general conduct of his business; and his policy is generally reflected in his organization and in his methods of handling the work intrusted to him.

This article is intended to give a brief description of the manner in which work is handled in the office of Starrett and Van Vleck. An idea of the layout of their offices should also be given, inasmuch as the layout is virtually a part of the system.

Starrett and Van Vleck occupy the two upper floors (twenty-first and twenty-first mezzanine floors) in the building at 8 West 40th Street, just west of Fifth Avenue, designed by them about five years ago. Free on all sides from adjoining structures, their offices are ideally light.

On the twenty-first floor are the main drafting room, business offices, library, reception room, conference room for general use, and private offices of the members of the firm — the general business offices being at one end and the private offices at the other. On the twenty-first mezzanine floor are an additional drafting room, water-color room, specification writing room, engineering room, conference room for large meetings, plan storage rooms for the transfer of finished work, coatroom and toilet rooms. Two stairways connect the two floors — one from the business offices, the other from the library on the private office side.

The main drafting room occupies the entire westerly side of the twenty-first floor, extending the depth of the building (75 feet, 6 inches), and one-half of the width (28 feet). There are twenty-seven full-size drawing boards in this room, with ample space between boards and comfortable aisle space. Steel trays are attached to each board for the use of the draftsman in the handling of his work. Telephones are placed in a convenient location at the sides of the boards, and over each board is a special light, adjustable to any desired position. The boards are supported on steel pipe standards attached to the floor, insuring rigid working surfaces. The room is exceptionally well lighted, having in addition to daylight on three sides, a series of sloping skylights with adjustable shades, that provide an even distribution of light in all parts of the room. Vertical and horizontal measurements are clearly marked off at convenient places for the use of draftsmen in judging distances. Desks are provided at the sides of the room, fully equipped, for the use of the draftsmen in taking care of their mail. The additional drafting room on the mezzanine floor accommodates six boards.

Building at 8 West 40th Street, Upper Floors of which contain the Offices of Starrett and Van Vleck

All current plans and specifications are kept flat in steel plan files in the main drafting room, each drawer being labeled as to the contents. The plan clerk and assistant have built-in desks in this room.

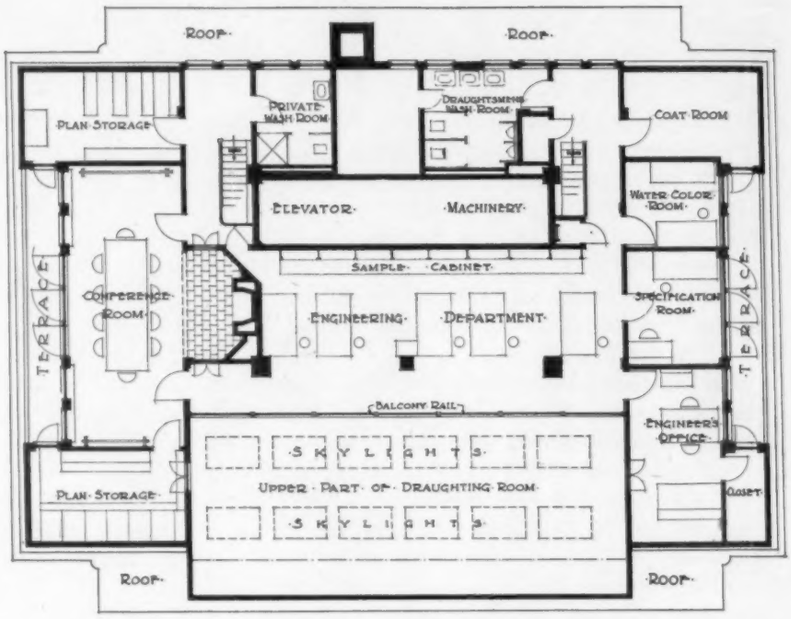
Special sample cabinets are erected on the mezzanine floor, in which are kept the approved samples on each job — the samples being labeled or tagged to show the name of the job, date of approval of sample and by whom approved.

The procedure followed in carrying out a commission is briefly: The new job is first given a number, a drawer in the plan file is assigned for it, inside of which are separate pouches for one-eight or one-fourth inch scale plans, scale details, mechanical plans and surveys or blue prints; and the job

is card indexed. As the various details are made, they are recorded in a special book for that purpose, with the names of the contractors to whom blue prints of them are sent, and with dates. Similar records of all mechanical plans, steel plans and shop drawings are kept, there being a system of numbering which identifies the architect's drawings, mechanical plans, steel plans and shop drawings.

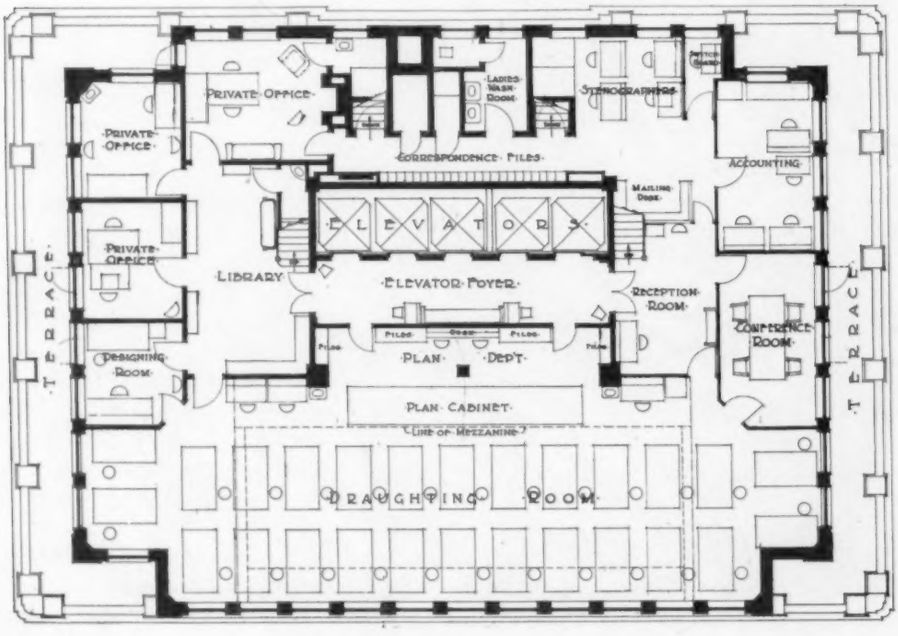
All incoming plans, specifications, shop drawings and photographs are handled first by the plan clerk, who places the time stamp on them, makes due record of the receipt, and turns them over to the draftsman in charge of the work. All outgoing plans, specifications, shop drawings and photographs are turned over to the plan clerk for recording and attaching of receipt. Upon return of the receipt (illustrated herewith), it is filed alphabetically under the job name in a file for that purpose. In the meantime, the second or carbon copy of the receipt is filed, and, when the signed original is returned, it is filed and the copy destroyed.

Shop drawings (which are always in duplicate), after being checked by the draftsman, are turned over to the plan clerk, who returns one copy to the contractor, and retains the other, which is folded, numbered, titled, and placed in a vertical file assigned for the shop drawings on that particular operation.



Plan of Twenty-first Mezzanine Floor

A set of the contract drawings and specifications, signed by the contracting parties, on each job, is kept in the office — a regular place being assigned for them. A signed copy of each contract is also kept. Just as soon as the contract has been signed, it is turned over to the checking clerk for notes as to any special stipulations that must be followed up; it is passed on then to the bookkeeping department for entry, then indexed and filed in a steel document file reserved for that use.

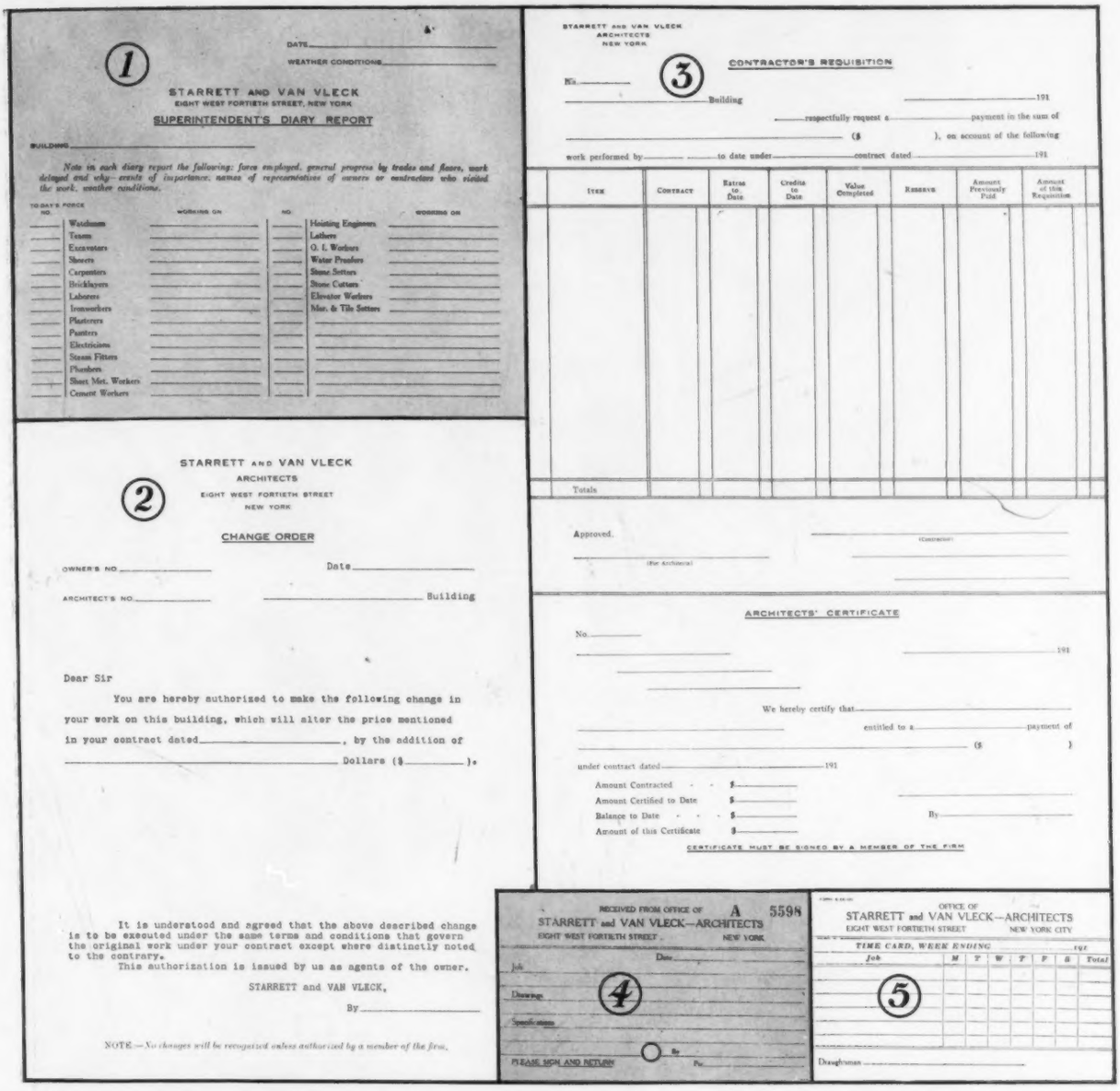


Main Office Plan, Twenty-first Floor

The sub-contractors on each job are indexed as to the branch taken care of by each, so that the name of the sub-contractor doing any particular work on a building can be ascertained readily at any time by reference to this index.

Reports of every inspection of the job are made to the owner on the "Superintendent's Diary Report," the form for which is shown herewith.

All changes representing additional work, or work omitted, are issued on the "Change Order" form reproduced, black printing identifying order for additional work, red printing that for credit for



1. Superintendent's Diary Report
2. Change Order for Additions (Printed in Black)
   (Similar Order for Deductions Printed in Red)
3. Contractor's Requisition and Certificate for Payments
4. Receipt Card
5. Draftsmen's Time Card

Reproductions of Forms in Use in the Offices of Starrett and Van Vleck

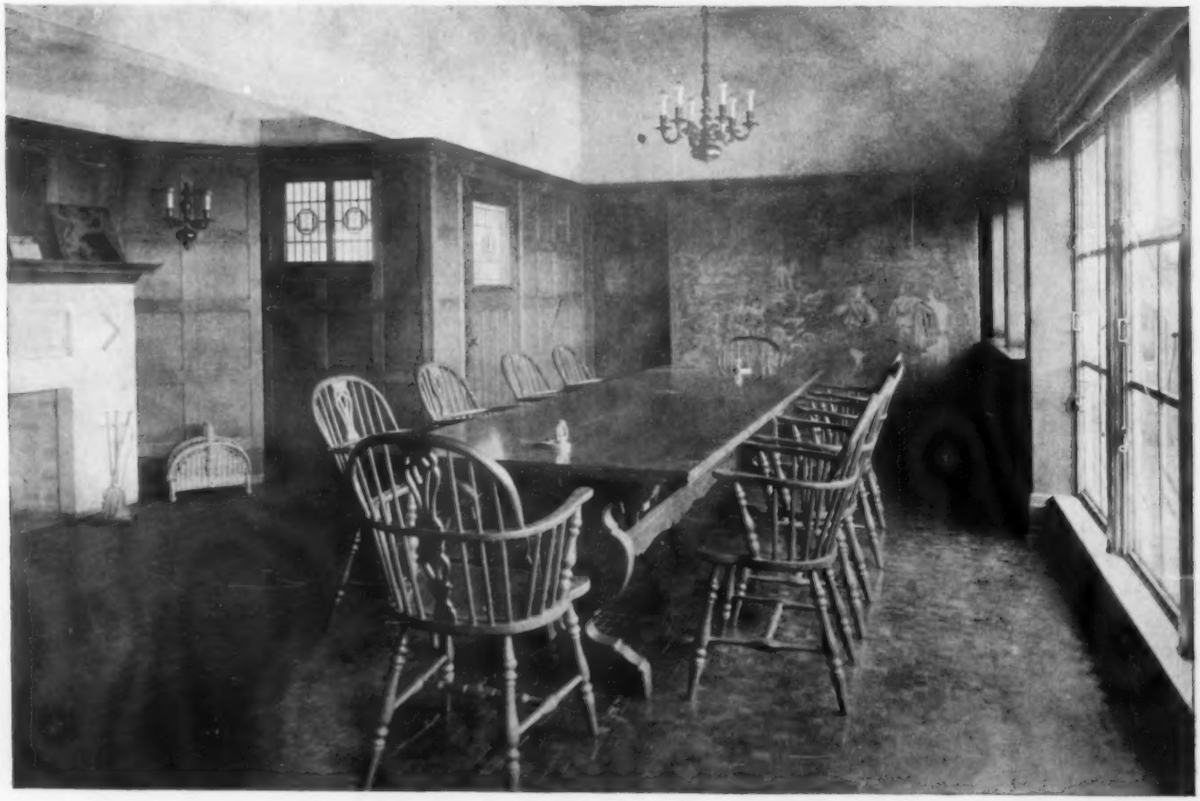
work omitted. These orders must be signed by a member of the firm and approved by the owner before issuance to the contractor.

Requisition for payment is made by the contractor on the "Contractor's Requisition" form. The requisition is turned over to the checking clerk for the checking of the amount of the contract, the amount certified, the additions, and for any other special notes that may have to be attached to it for the draftsman's information. It is then passed on to the draftsman in charge of the work, and, when it comes back to the clerk, approved, the certificate is issued, using the form at the bottom of the requisition. All certificates must be signed by a member of the firm before being sent out.

Upon the completion of the job, the drawings (with exception of the cloth tracings) are removed from the current files in the main drafting room, and are folded, numbered, titled and put in special box files in the plan storage room. The specifications are placed in pouches, numbered and marked distinctly as to contents, and are filed vertically on shelves in the same room. The cloth tracings are bound together and transferred flat to a storage

VIEW OF LOBBY TOWARD LIBRARY

VIEW OF LIBRARY TOWARD PRIVATE OFFICE



CONSULTATION ROOM ON MEZZANINE FLOOR

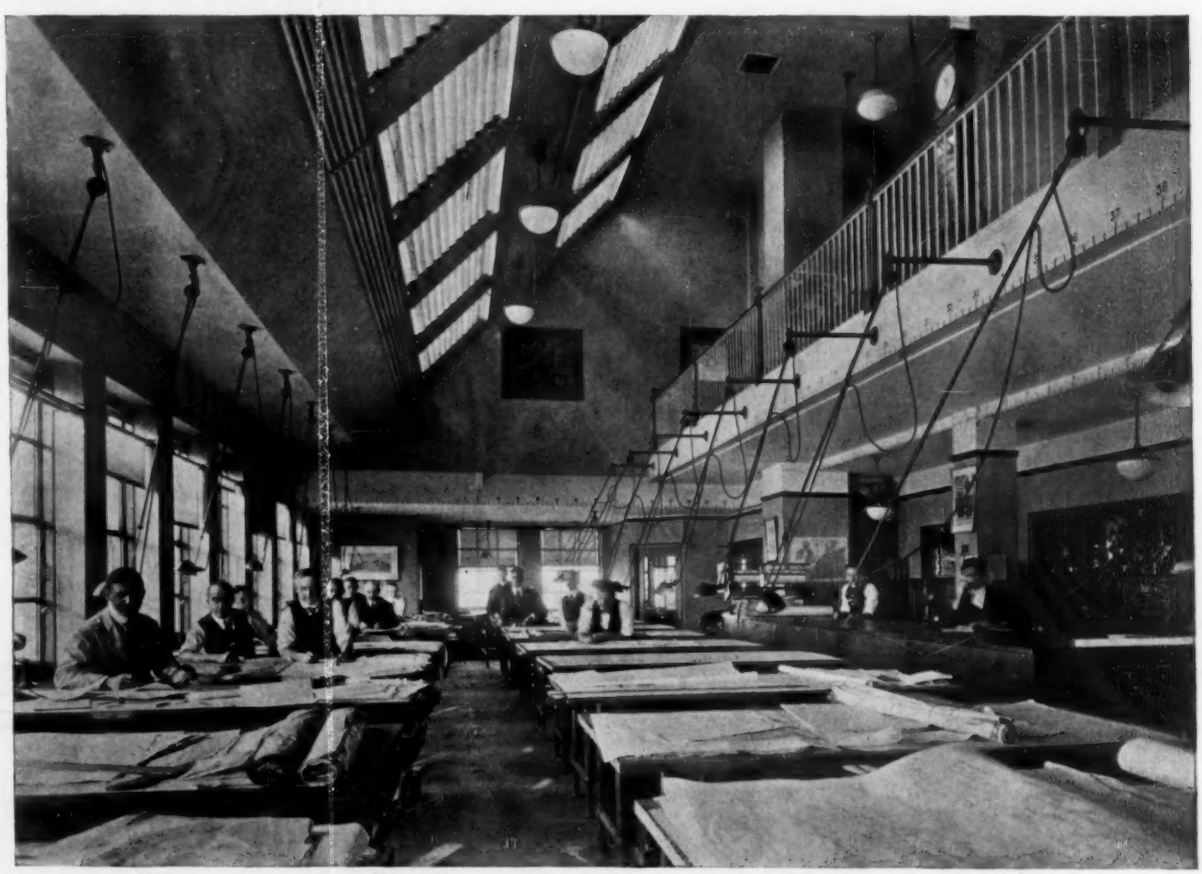
THE OFFICES OF STARRETT AND VAN VLECK, ARCHITECTS

file. An index is made of all transferred work, through which any set of drawings or specifications can be had immediately.

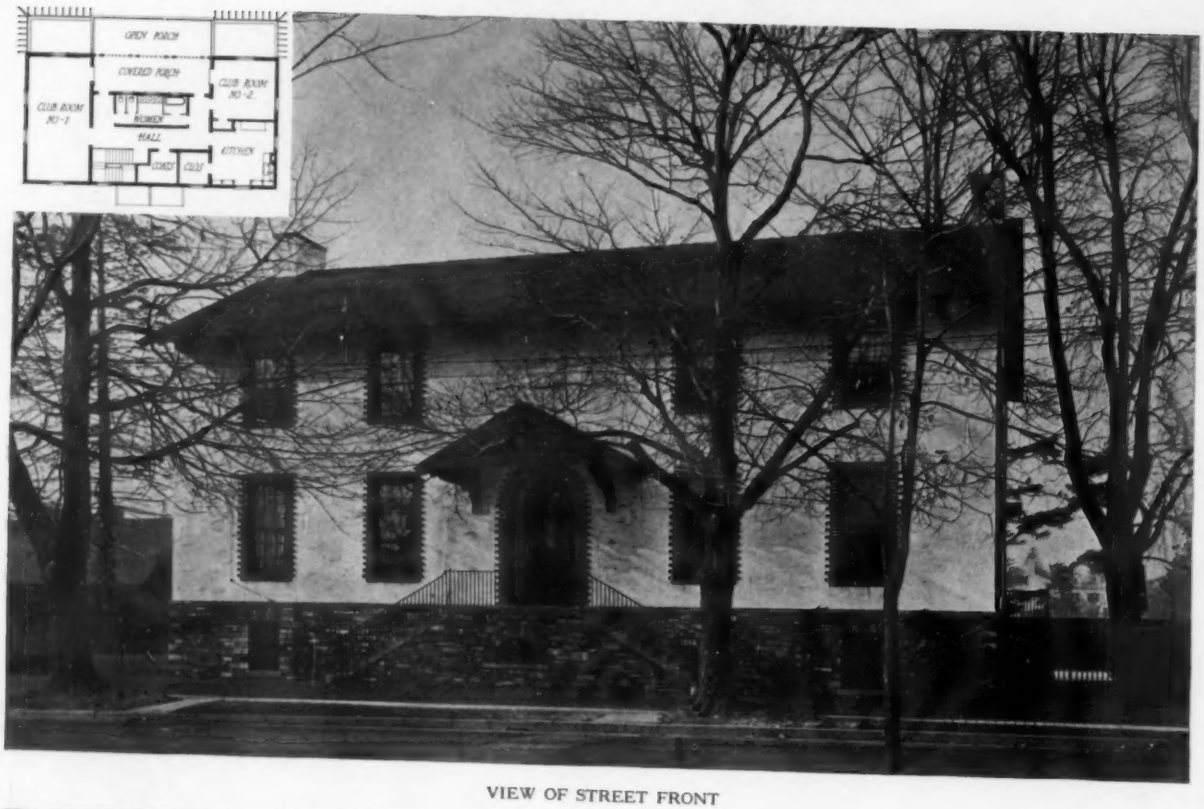
A few words in reference to the handling of work in the drafting room may be of interest. The principle of "Head Draftsman" is not followed; each job is assigned to a man specially qualified to meet its requirements and he is held responsible for his own work. There is, however, one draftsman who has a thorough knowledge of all work in process and he acts as consultant on matters relating to the division of work and its assignment. The drafting room is further under the direct supervision of one member of the firm.

The draftsmen's time records are very carefully kept. The cards, a reproduction of which is shown, provide space for a week's record but must be made up daily. They are collected each evening and distributed again in the morning in order to prevent the men deferring until the end of the week the compilation of their time with consequent inaccuracies creeping in. Friday is appointed pay day, and the time cards are consequently turned over to the accounting department for entry and making up the payroll after collection on Thursday evening, new cards being issued Friday morning.

The draftsman being held responsible for his own work, it is obvious that all incoming and outgoing correspondence pertaining to it is referred to him. A careful system governing the distribution of mail prevents any error in determining to whom the matter should be referred and further insures its receiving proper attention. All incoming correspondence is stamped, indicating the exact time it is received, and is then marked for reference to the person or persons by whom it should be seen in the judgment of the clerk opening the mail. It is then passed on to a member of the firm, who examines all mail before it is distributed, for the appending of any notes or instructions, before sending it on to the draftsmen or others for whose attention it is marked. No incoming communications are filed until initialed by the person for whom they are intended, indicating that the matter has received the proper attention. Similarly no copies are filed until they have been seen by a member of the firm.

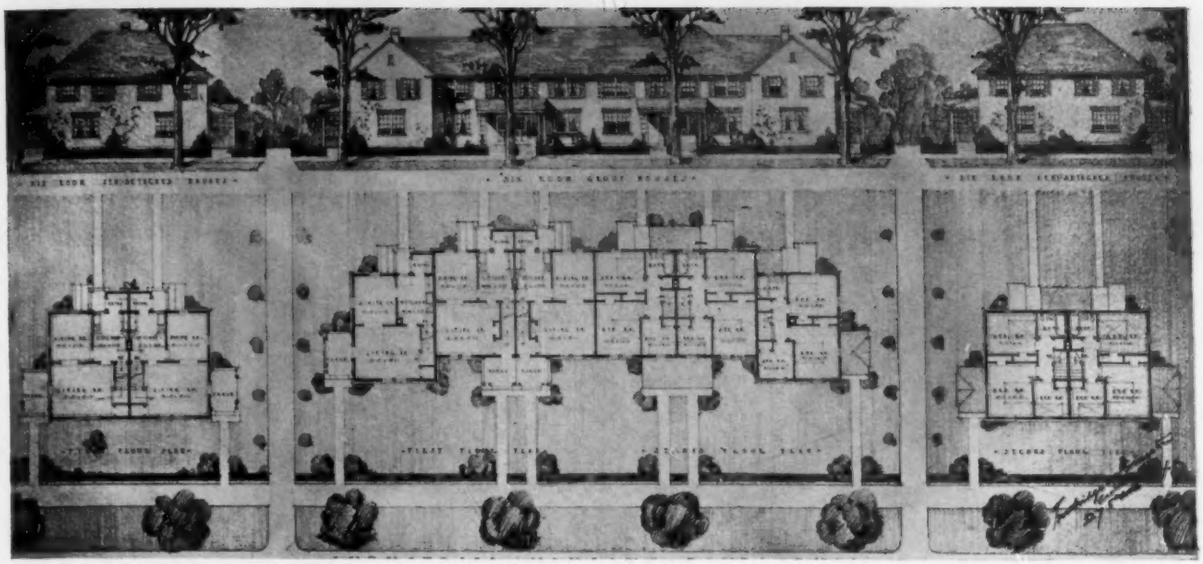


View of Main Drafting Room
The Offices of Starrett and Van Vleck, Architects



VIEW OF STREET FRONT

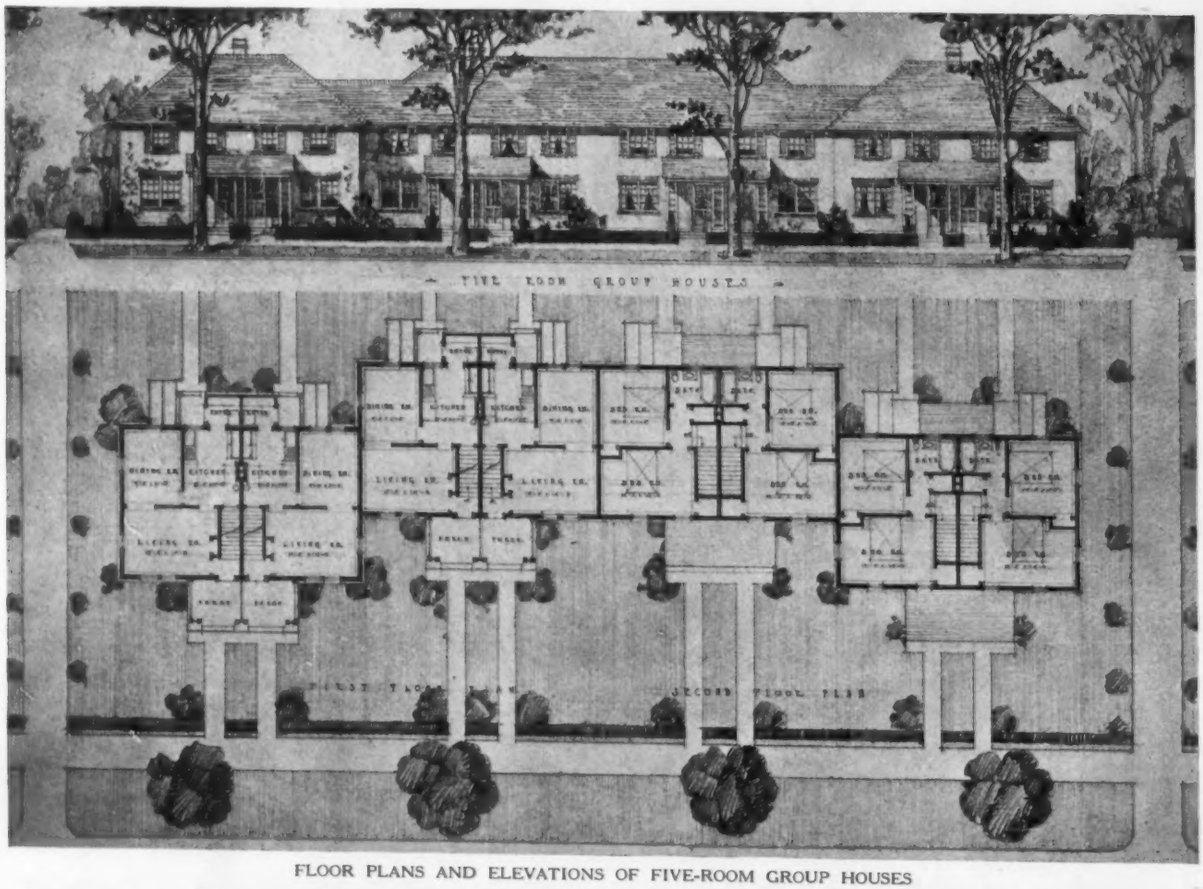
REAR VIEW FROM PLAYGROUND
DOROTHEA'S HOUSE, PRINCETON, N. J
DELANO & ALDRICH, ARCHITECTS



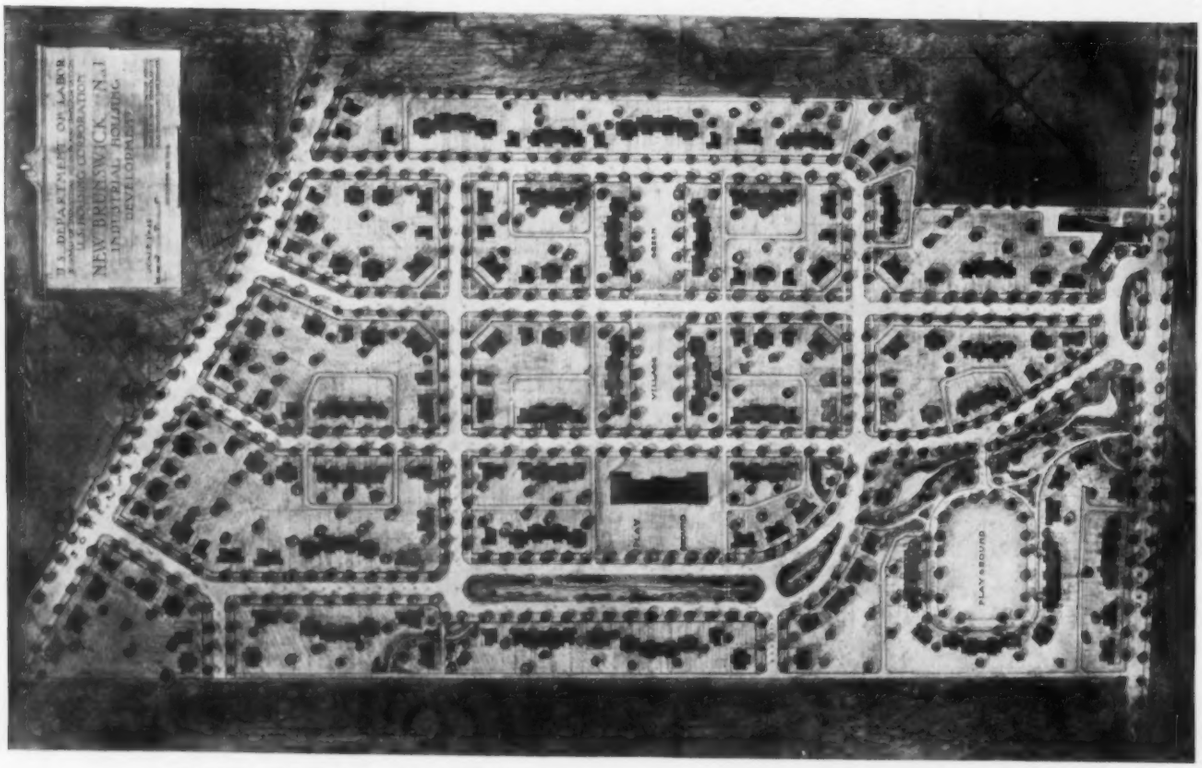
Housing Development at New Brunswick, New Jersey for the United States Housing Corporation

AT New Brunswick, N. J., a most important manufacturing center, housing conditions were found to be entirely inadequate, after a careful survey made under the direction of the United States Housing Corporation. It may be said in passing that, contrary to what its name might indicate, the duties of the corporation are not solely the building of houses for workingmen employed in war industries. Its activities begin upon a direct request from the War or Navy Departments. They comprise, first a careful survey of existing accommodations, a study of transportation facilities to enable surrounding territories to be utilized if they contain housing accommodations, and finally a study of plant production with a view to a decrease of output to accord with available facilities where such decrease will not place the output below the necessary requirement. All of these failing, the construction of houses is undertaken.

Such a condition prevailing in New Brunswick, Messrs. Trowbridge and Livingston were appointed as architects, working in conjunction with Charles N. Lowrie, town planner, and the Ward Engineering Company. The property selected for this development is within the city limits lying in the westerly section of New Brunswick, between Jersey Avenue and Somerset Street (Lincoln Highway). This proved an almost ideal location. The natural surfaces of the ground are gently rolling, with a general inclination toward the south, except for a well defined valley through which a small stream runs westward from Jersey Avenue, forming a natural watershed. The lower portion of this valley is heavily wooded, and quite steep for a distance of about one thousand feet on the southerly bank of the stream, after which it widens out to a broad swale. This valley effect with its interesting woodland scenery has been recognized in the arrangement of roadways and paths. In laying out the streets, the natural grades have been taken into account, but perhaps the governing consideration has been a recognition of the chief lines of travel to and from New Brunswick, and the plant of the Wright-Martin Aircraft Corporation, which the houses serve and which lies immediately to the east of the development. These lines of communication are by means of Somerset Street and Jersey Avenue in an easterly direction from the tract. The northerly frontage opposite this tract is partially subdivided for residential purposes, but only sparsely occupied. The easterly boundary overlooks a cemetery, which is to a large extent undeveloped, except for the planting of trees in a parklike manner. The southerly frontage is low ground with the Pennsylvania Railroad a few hundred feet distant. The western boundary consists of open fields. The general shape being oblong and the natural means of access being from the north and south, it has seemed logical to carry the principal circulation of interior streets parallel with the longer sides and convenient to these means of access, namely Somerset Street and Jersey Avenue. Furthermore, inasmuch as the workers will chiefly use the Jersey Avenue approach, it has seemed wise to make a distinct entrance at the nearest point to the works on Jersey Avenue, from which point the lines of roadways and sidewalks diverge to all parts of the development. An axial street runs from here across to Somerset Street. Along this axial street the grouping of houses has been studied with reference to the possibility of interesting effects, more



FLOOR PLANS AND ELEVATIONS OF FIVE-ROOM GROUP HOUSES



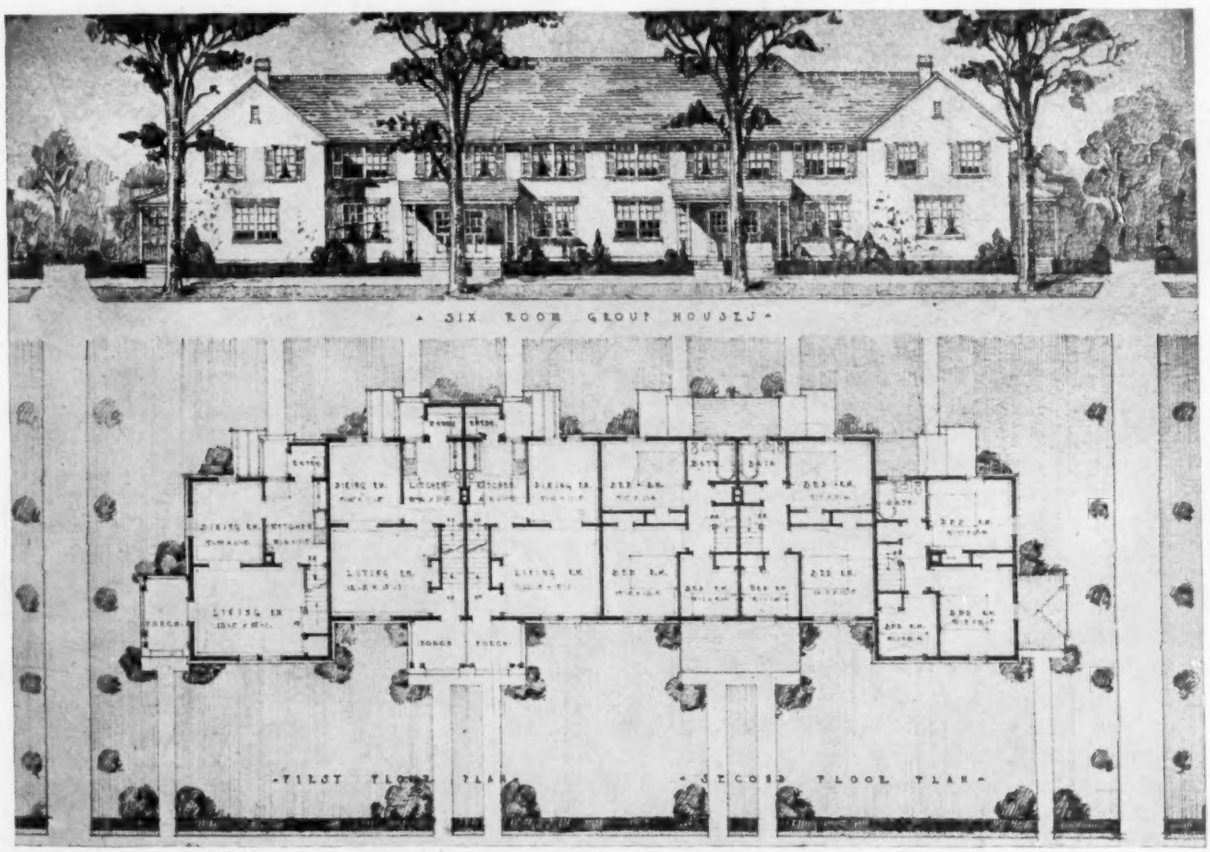
GROUND LAYOUT OF HOUSING DEVELOPMENT AT NEW BRUNSWICK, N. J.

EDITORIAL COMMENT

particularly at the intersection of cross streets and where the so-called Village Green has been introduced. Open vistas have also been introduced along the lines of the stream, where the ground, being rough and irregular, is scarcely suited to residential purposes, especially near the southerly corner of the tract, facing the wooded ravine, which is left open for breadth of effect and playground opportunities for small children.

Ample space has been allowed for a grade school, and stores, small apartments and a moving picture theatre with other recreation facilities are provided for at the Jersey Avenue approach. Of the forty acres at present being developed, less than an acre has been appropriated for other than residential purposes. The density is about ten families per acre, which is comparatively high, but is relieved by the numerous open spaces above mentioned. It is planned to secure an abundance of shade along tree-lined streets and roads and a sense of relative privacy for all houses, by means of low boundary hedges around all blocks, while the layout in general is so disposed as to emphasize all open areas. The roadways and paths are sufficiently broken in length, and curves introduced at intervals where topography gives reason, so as to obviate a stiff and formal treatment.

Careful consideration was given to the types of houses distributed on the site and the materials employed. The houses, while most economically planned, are of a high standard of construction. The majority are six-room dwellings, some five-room and a small number of four-room dwellings. They are built and grouped in a variety of ways; some detached, others semi-detached, and a large number of row houses. All are of semi-fireproof construction, the exterior walls being of hollow tile, finished with stucco and the roofs of slate. As a number of terra cotta plants are to be found in the vicinity, this material proved to be quite as economical as wood. All houses are of two stories and have cellars which contain hot air furnaces and, in most cases, laundries. The bathrooms, kitchens, in fact, all rooms, have been studied so that the fixtures and furniture will fit into spaces of minimum size compatible with comfort and convenience. The exterior design is extremely simple, the general effect being largely dependent upon a number of combinations derived from a few unit types, and the distribution of these with reference to each other and to the town plan. The only purely decorative elements are brick lintels and sills at the first-story windows. Blinds are used at the second-story windows, but these are distinctly useful as well as decorative elements. An interesting color scheme for the exteriors has been developed to lend further variety and charm to the architectural treatment.



Floor Plans and Elevation of Six-Room Group Houses

EDITORIAL COMMENT

THE situation to which architects have been looking forward with much expectancy has arrived. The war is now over, save for the actual signing of peace treaties and the determination of those safeguards we hope will prevent a recurrence of such a terrific waste of life and property as the last four years have witnessed. Are we, however, to find ourselves shortly in the same circumstances as existed before the war? Are the momentous changes in national and individual viewpoints brought about during the war to have no effect on the conditions of life and business in the days of peace that will follow? The present progress of events and the deductions of those authorities who are qualified to judge do not so indicate.

The war has brought a clarity of vision and a development of thought which could not have been accomplished short of a whole generation of normal activities. A general re-estimation of values and a quickening of public conscience have taken place; we have juggled with the terms "essential" and "non-essential" and though there was much confusion in our haste to eliminate everything which showed no direct bearing on the war, we unconsciously acquired a faculty of looking for the truth in every situation and apportioning to things their relative values. There is likewise a sorting and sifting process taking place today in purely peace-time activities. The useless man, institution, custom or whatsoever is marked for extinction. We have fought a war for the principles of democracy and won it. That fact does not mean, however, the triumph of democracy; it only establishes the birth of democracy. We have yet to bring it to perfection. A long step toward that goal has been taken in proving the failure of autocracy — that is the type of autocracy founded on the power and influence of a few. We need not, however, abandon all thought of recognition of special qualifications in our democracy of the future, we may have even an autocracy — but an autocracy as Charles M. Schwab has expressed it, "of men who serve, who do things for their country and their fellow men."

In the democracy of the future where will the profession of architecture stand? Are its members fitted to serve their country and their fellow men? The Government, whether rightly or wrongly, has decreed through its official acts that architecture has no place in war. Will this serve as a precedent to be carried over into peace times? Has architecture been only a servant to autocracy? Does it provide only a means of displaying wealth, perhaps accumulated through methods now condemned? Is the fact that architects have only the desire to add beauty to a structure, which in every other point an engineer may claim to produce equally well, sufficient cause to consider architecture essential, and grant to it the dominating position in the building world? There is no one so base as to deny beauty its value, but similarly there will be no one so brave as to explain away obvious defects of plan and construction, excessive cost and superfluous enrichment, by pointing to the beauty of the structure as greater in value than all else.

The lessened activities of private building and the general non-recognition of architects on Government work have afforded much time for thought on these and other questions. This has not been unproductive of some result; we have had equally strong criticisms and commendations of the architect's course. Surely there has been much thought, but only a measure of it has displayed the qualities of enduring worth. Enough has been said, however, to indicate a serious demand for a study of conditions and some changes in professional relations if such study makes that course advisable.

Architecture as an art must be preserved. If the present methods of practicing it are not such as to command the fullest respect and confidence of the public, those methods must be changed. It is not possible to force the opinions of any body of men for any prolonged time against a natural tendency in another direction. We have today unmistakable evidence of a desire on the part of all people to share in the development of our nation and the advantages such development will bring. If the profession of architecture is not sympathetic with this laudable aim and is not so constructed that it can serve to further this movement, its high position is endangered. These questions must be determined. Sufficient signs are abroad to make a study of the architectural profession with relation to post-war conditions a matter of immediate concern to all vitally interested in its continued welfare. The American Institute of Architects, as the national organization representing the collective interests of all American architects, should lead in this study and lend to it its entire resources. If conditions are found to warrant any changes in practice, the reform should come from within the professional body itself. If not, it will be forced from without by the refusal of the people to endorse any movement not in accord with its aim to abolish autocratic and wasteful tendencies.

Men and affairs are today being weighed in the balance. The day of reconstruction is at its dawn and methods of procedure will in this period be established that will serve as precedents for the next generation to come. Architecture as a servant to all the people has a future open to it that will outshine in glory the greatest period of its past, but it must be made truly to serve the people, and that obligation rests upon this day and generation of architects.

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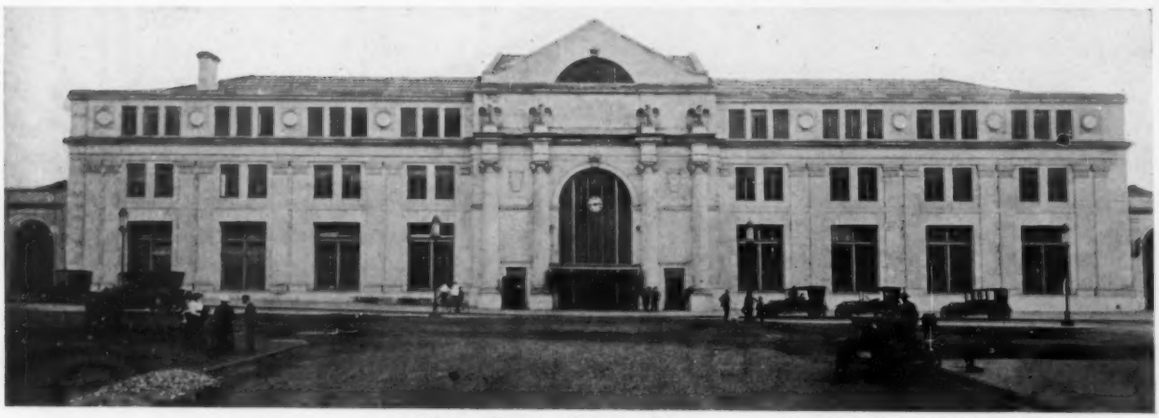

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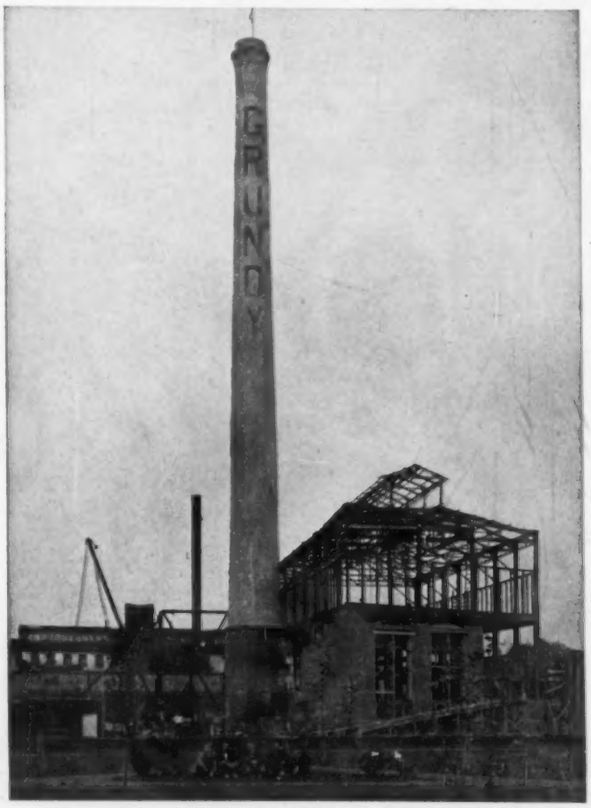

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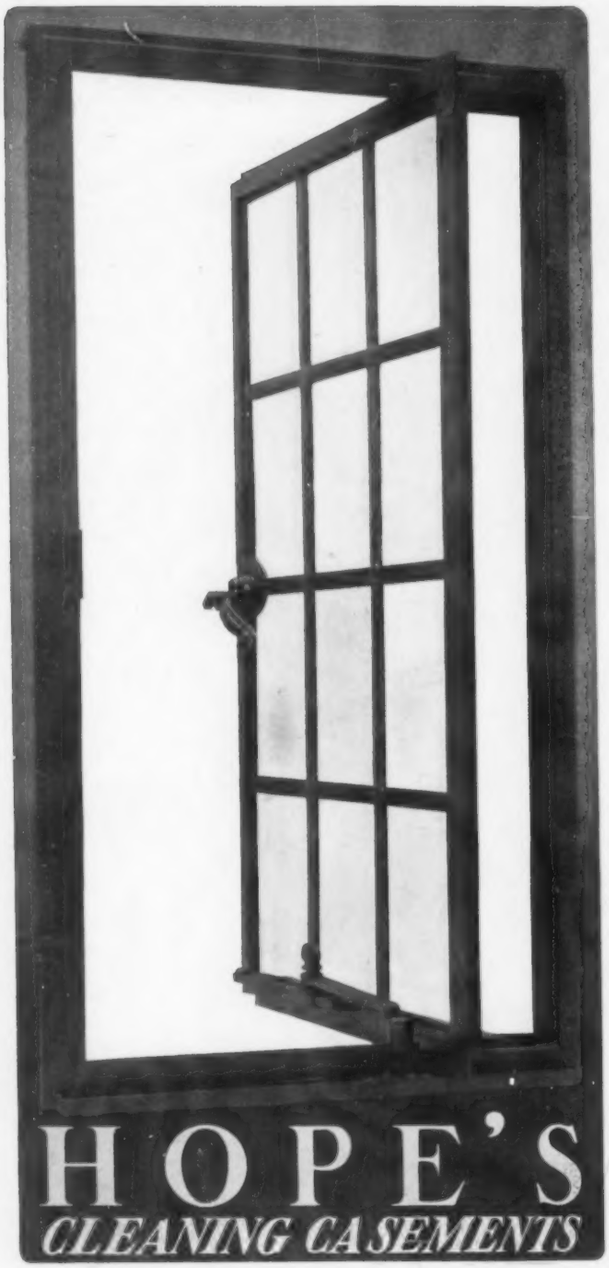

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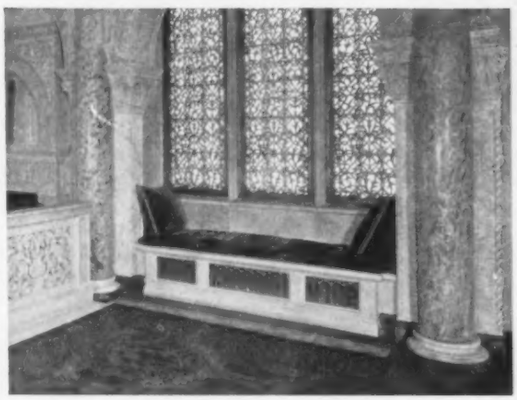

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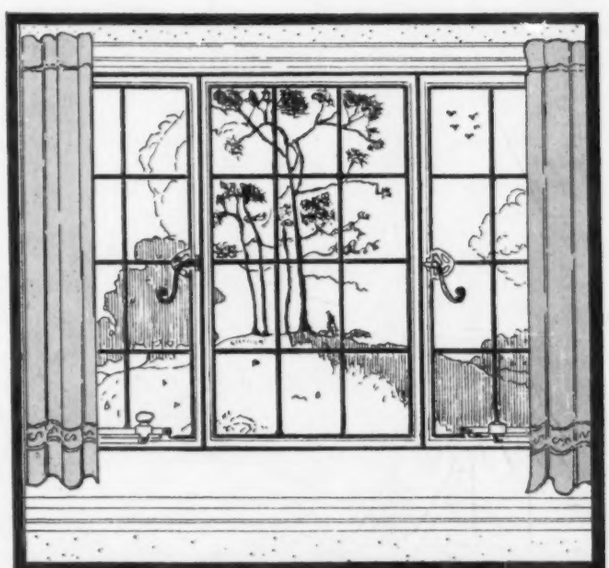

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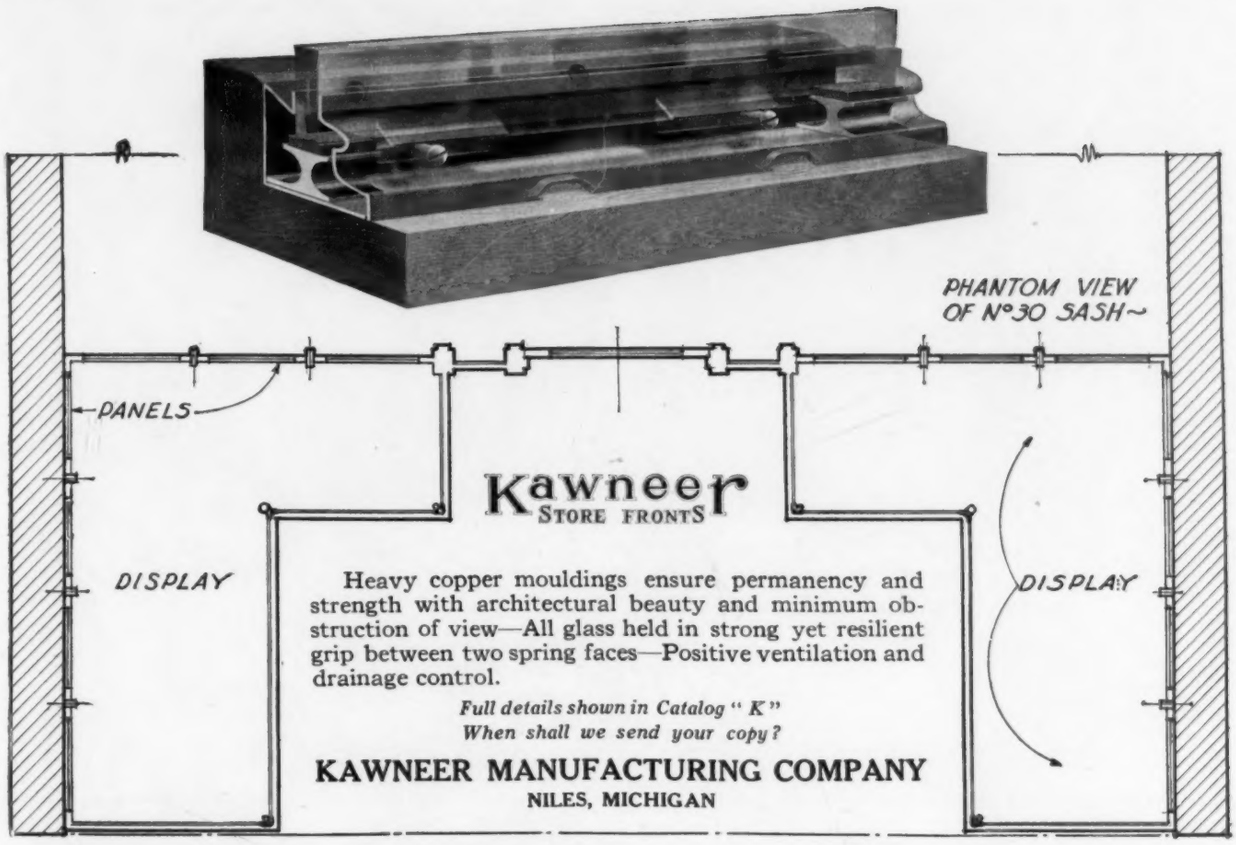

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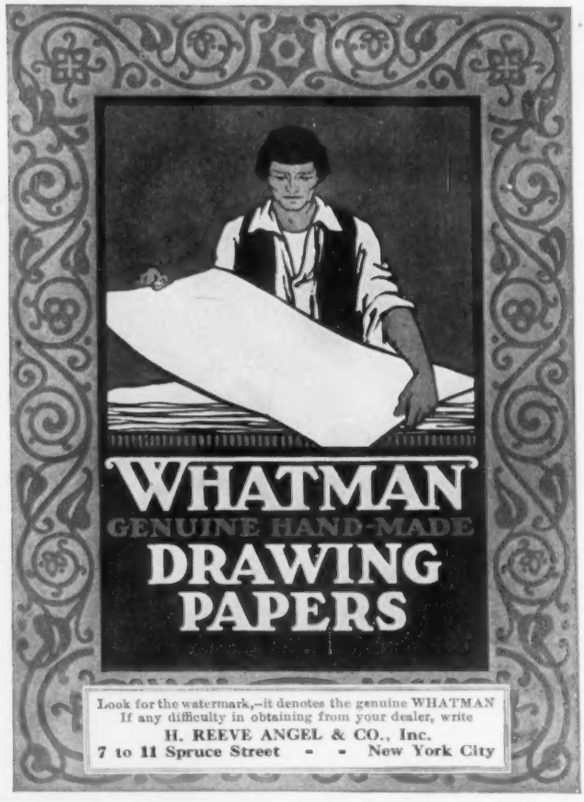

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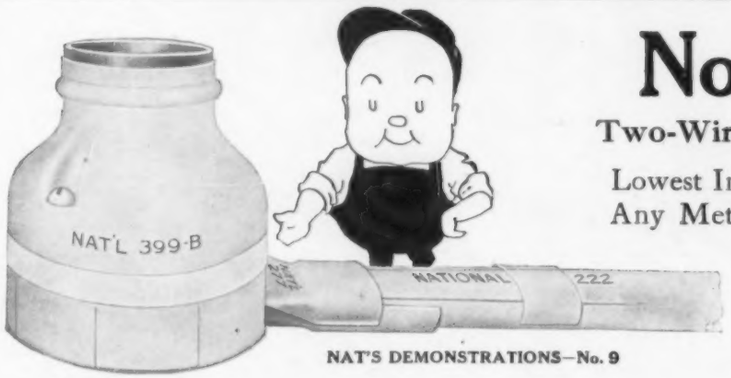

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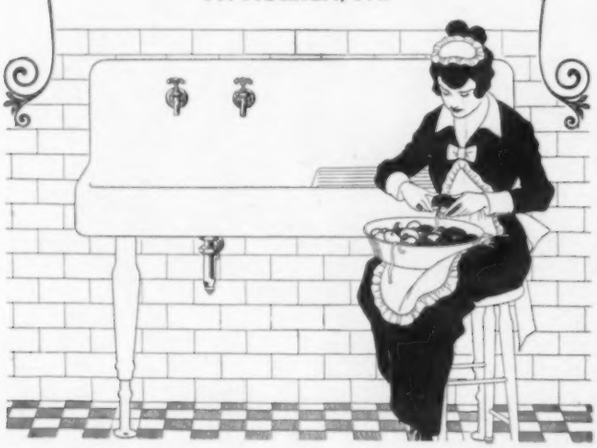

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The Surrender of Granada to Ferdinand and Isabella, from the painting by Pradilla in the Palacio del Denado, Madrid

Sword and Helmet of Boabdil El Zogoybi, now in the Royal Armory at Madrid

THE Coming of the Moresque

The Kingdom of Granada, with its Citadel, the Alhambra, was more than the last possession of the Moors in Spain—it was a stronghold of the fine arts. The culture of Bagdad, of Persia, of China flowered in the Alhambra; for in the realm of fine arts the Moors were centuries ahead of their contemporaries.

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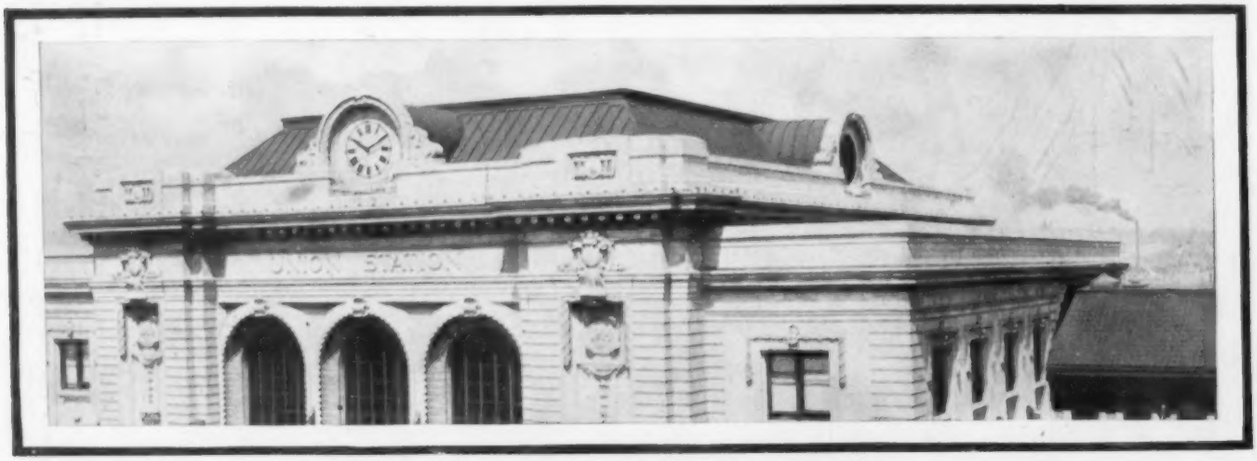

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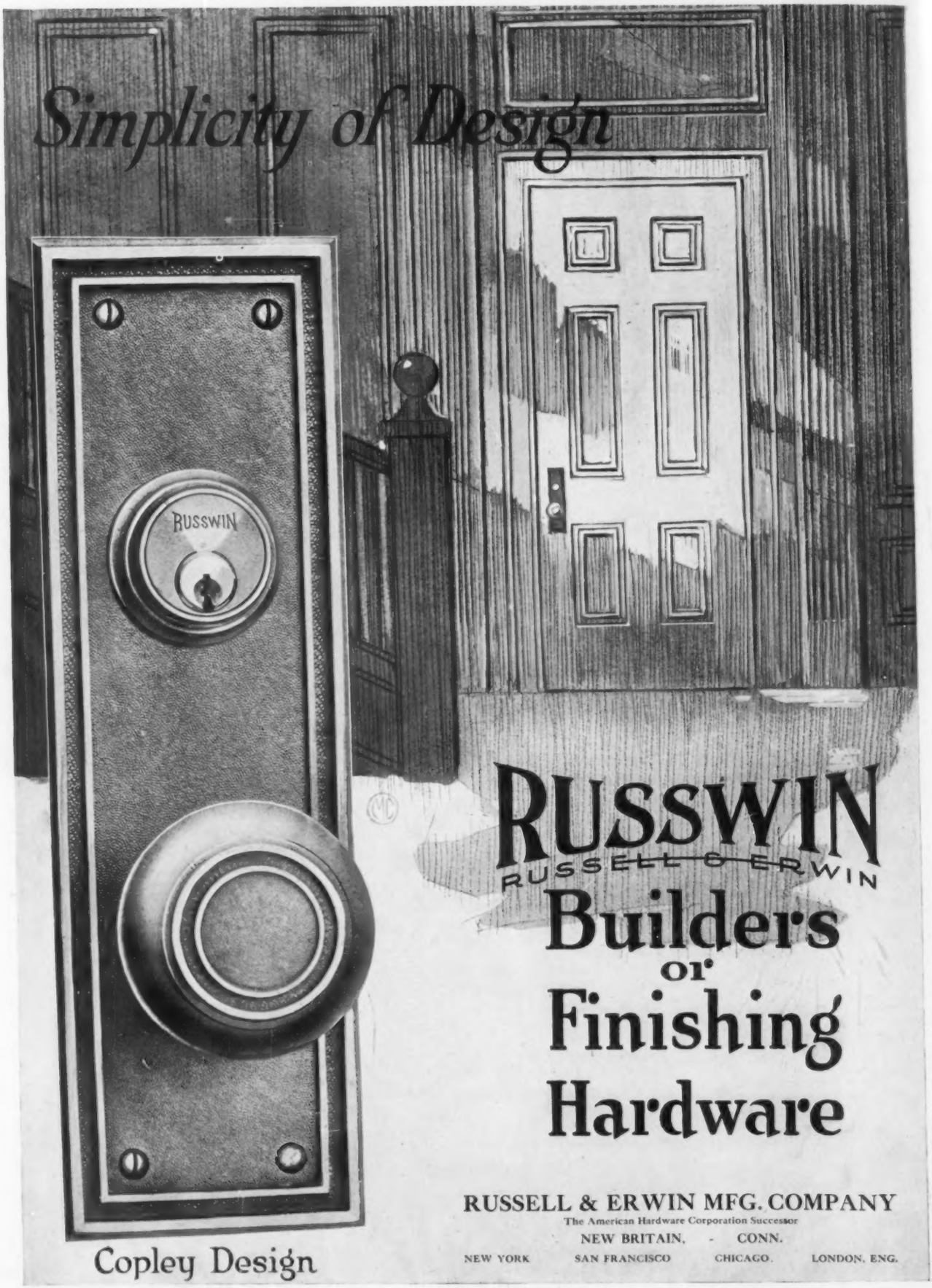
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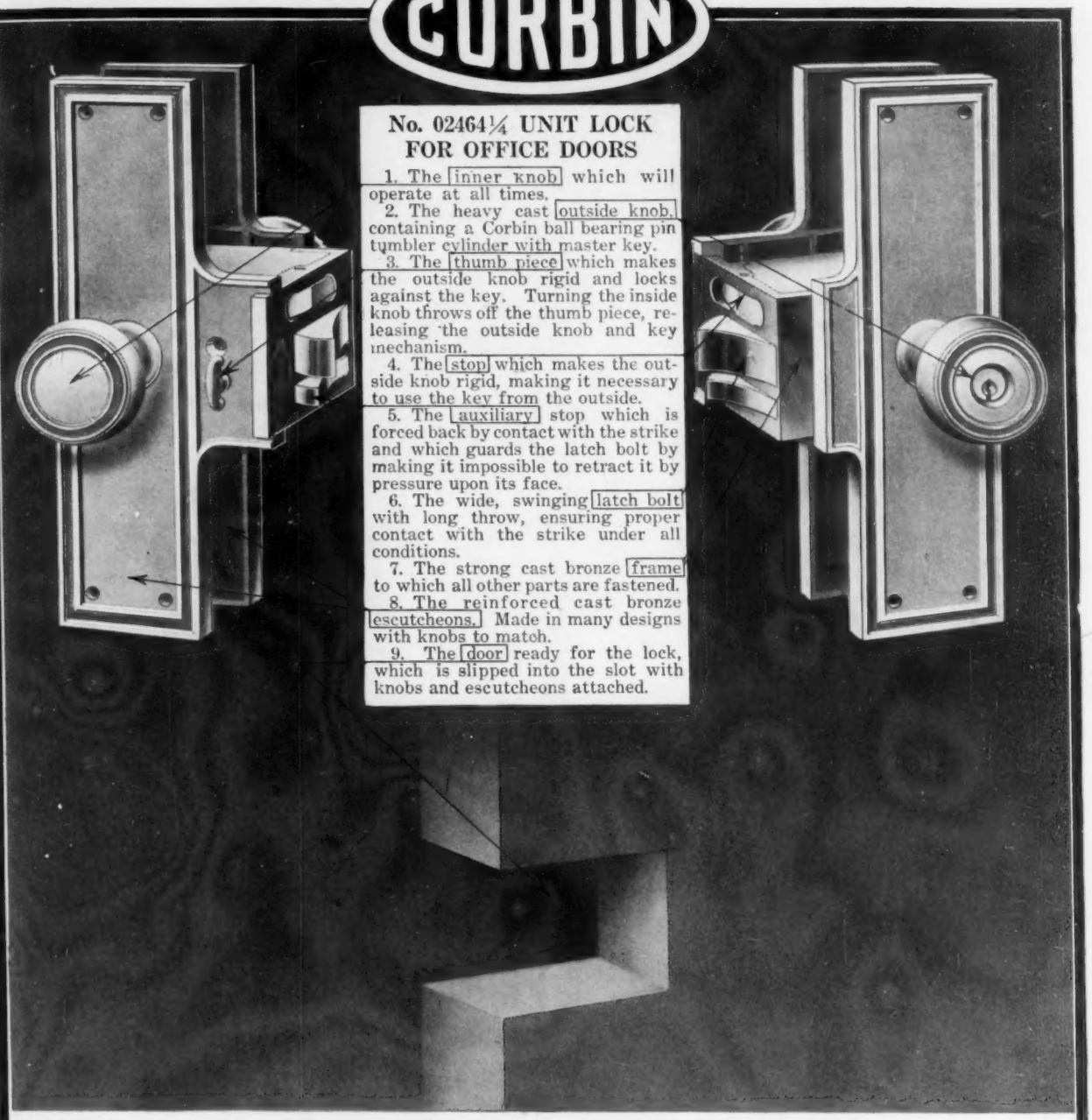
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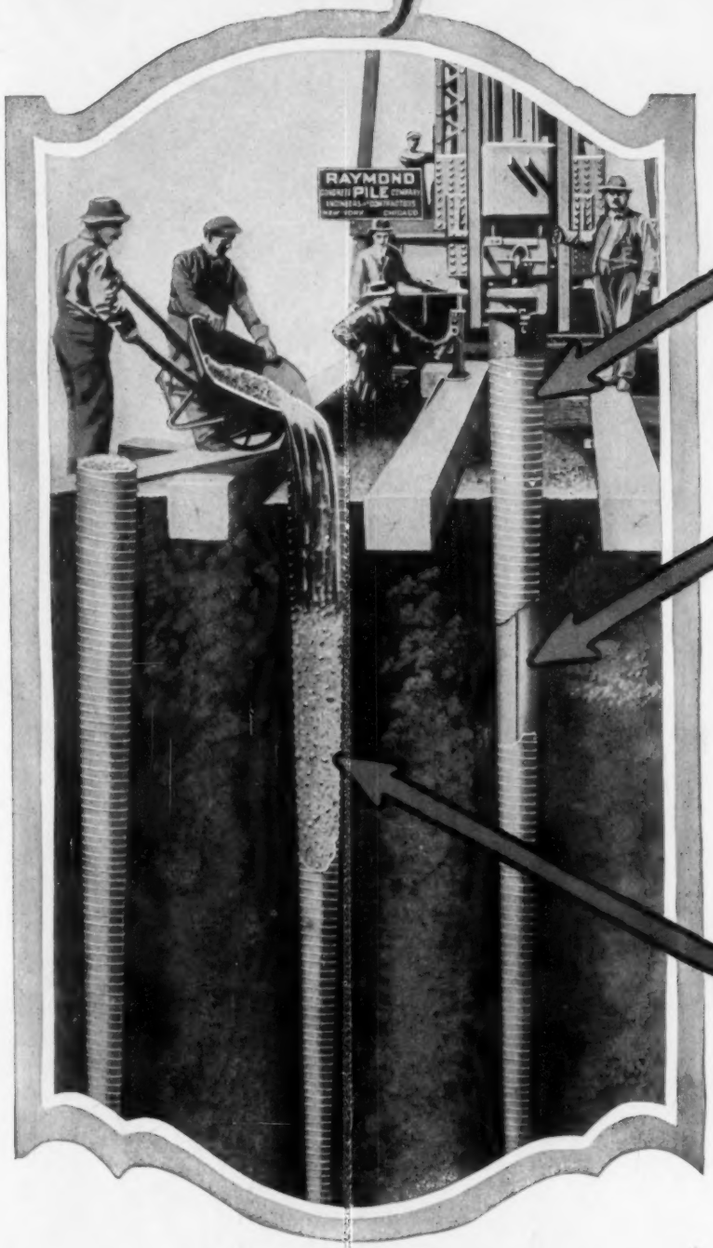

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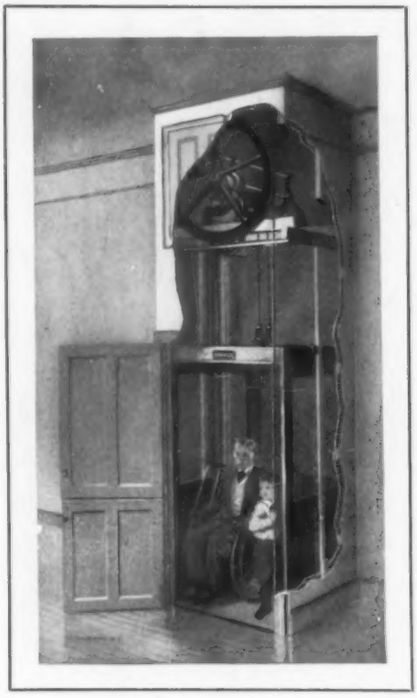

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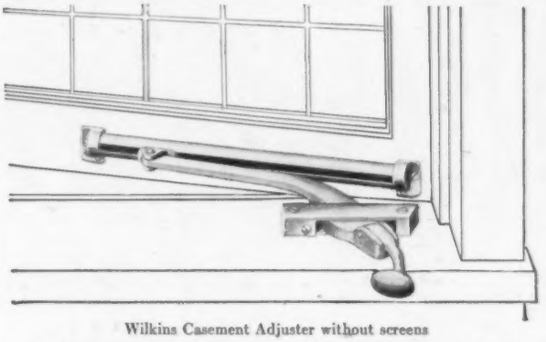

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Birmingham	Cincinnati	Kansas City	Montreal	Pittsburgh	Tacoma
Boston	Cleveland	Knoxville	Nashville	Portland	Toronto
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BEAUTIFUL HOMES
Built With Berger *Metal Lumber*

HOME OF NOAH H. JLEE, BEACON, N.Y.

HOME OF J.W. BETTENDORF BETTENDORF, IA.

HOME of E.H. FICKINGER, YONKERS, N.Y.

WHEN beautiful homes are to remain beautiful and usable for generations, there is nothing better for the framing than the pressed steel joists and studs, called Metal Lumber.

While it is almost as light as wood framing it offers many points of superiority.

Metal Lumber cannot burn or rot, it cannot shrink or warp, it defies insects and the teeth of rats and mice.

Since it is cut to exact size and bolted firmly together there can be no "settling" of the structure to crack the walls and twist door frames.

If you do not *know* this material write us at once for Technical Bulletin L-8.

The Berger Mfg. Co., Canton, Ohio

Branches: Boston, New York, Philadelphia, Chicago, St. Louis, Minneapolis, San Francisco

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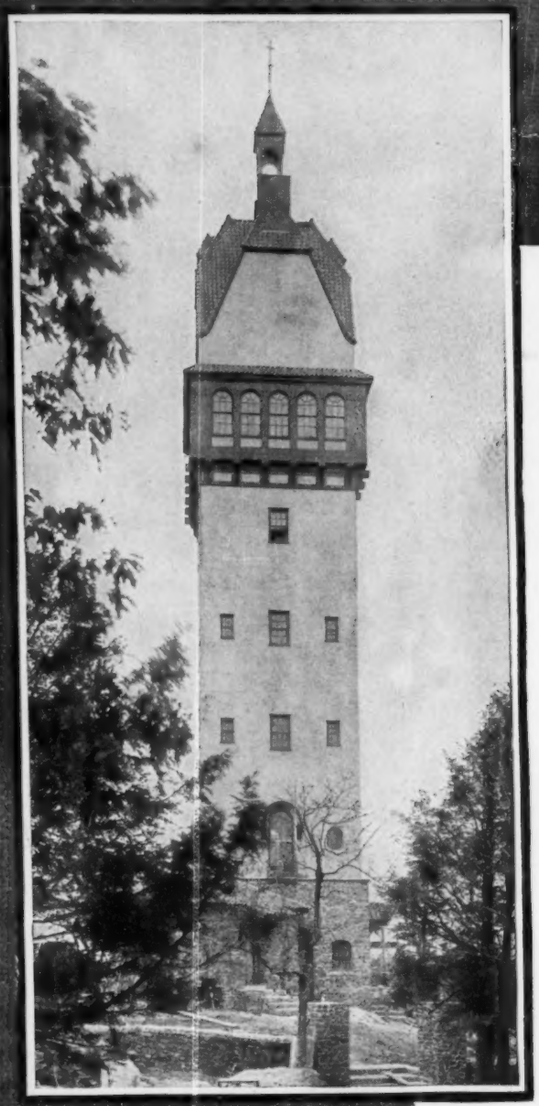
HOME OF PROF., G.B. PEGRAM, NEW YORK · CITY ·

BERGER

EXPANDED METAL LATH-FLOOR CORES-REINFORCING PLATES-METAL LUMBER
STEEL FILING CASES-LOCKERS-FACTORY STORAGE BINS AND SHELVING
STEEL CEILINGS-ROOFING-SIDING AND OTHER PRESSED STEEL PRODUCTS

CONSTRUCTION VIEW— Mr. BROMAN'S RESIDENCE. TOLEDO. O.



Heublein Tower, New Hartford, Conn.
Architects: Smith & Bassett, Hartford, Conn.

A Tower of Beauty and Strength

The rapid erection of the exterior walls and elevator enclosure of stucco was made possible through the use of the stiff-ribbed reinforcing material,

CORR-MESH

The result is a tower of beauty, strength and permanence, at a cost lower than that of any other construction of even approximately equal appearance an utility.

CORR-MESH is particularly adapted for roofs, floors, partitions, and exterior walls of manufacturing plants; for handsome, permanent, fire-proof stations and wayside buildings for railroads; for repair work, whether on steel, concrete, or wooden frames; for stucco residences, farm outbuildings, fences, culverts, tanks, suspended ceilings, furring, etc.

Catalog and full particulars sent in response to request on business letterheads

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Mutual Life Building **Buffalo, N. Y.**

Boston New York Syracuse Philadelphia Detroit
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EXCELSIOR Wire Products
WRIGHT WIRE COMPANY

Building Big Buildings to house Big Business

IN the construction of buildings of this character, the inside walls must bear their share in the creating of permanency, durability, rigidity. To assure these features, the architect and builder must make certain that the plaster base is equal to the extraordinary demands that will be made upon it.

For this magnificent structure—the Western Union Building of New York City—Excelsior Wire Lath was selected as the proper material to meet all necessary conditions of construction.

Excelsior Wire Lath can be formed to fit any space. It permits the designing of any kind of alcove, doorway, or opening of any shape. It can be formed around beams, pillars and other protruding objects. There has never been discovered a place, where plaster is needed, that Excelsior Wire Lath could not be used.

Can be used on iron or wood furring or secured to brick or stone work. Quickly put up. Reinforced if necessary. Excelsior Wire Lath is a woven fabric of cold-drawn steel wires of great tensile strength. Has an even selvage that makes tying and handling easy operations. Plain, japanned or galvanized.

Government demands are taxing our plants to the utmost. Of necessity, this curtails production for civilian use. We ask those who cannot be served as promptly as they would like to bear with us until civilian production can be brought back to normal channels again.

Write for booklet L, giving detailed and explicit information

WRIGHT WIRE COMPANY
Worcester, Mass.

WESTERN UNION BUILDING
New York City
W. W. Bosworth, Architect — *Marc Edlitz & Son, Builders*
Photo by Wurts Bros., New York City

These cottages are housing essential employees of the Indiana Steel Co., Gary, Indiana. The exterior stucco walls and the interior plaster walls are over Herringbone Rigid Metal Lath.

Workmen Will *Stay* In These Homes

The need for adequate industrial housing has long existed. Now it will be seen even more clearly than heretofore that one of the best ways to weld valuable workers permanently to an industrial plant is to house them comfortably, attractively and economically. Then metal lath and stucco homes will be more popular than ever.

Such structures can be put up rapidly and built to last at the same time. They are a permanently valuable investment to the owner; a source of lasting satisfaction to the tenants.

They are cool in summer, warm in winter. The perfect "key" of plaster and lath stubbornly resists fire, mice, rats, vermin, weather and decay. Falling plaster is unheard of.

Specify and use Herringbone Rigid Metal Lath because it is standard, *full-weight* lath, and because of its exceptional strength and rigidity due to the heavy longitudinal strands, set at an angle of 45 degrees to the plane of the lath.

Our well-organized system of branch offices in all principal centers assures prompt shipment of Herringbone Lath for essential uses in connection with war industries. Having set the highest standards of swift, economical and permanent building materials for many years, we are now fully equipped to give valuable service in the vital problem of housing industrial workmen right.

Engineers or architects interested in this most important building opportunity should get in touch with us.

The GF Industrial Housing Book we will present free to any interested architect, engineer, contractor or builder on request. To others upon remittance of $1.00.

The name of a GF dealer nearest you can be obtained by phoning Buyers' Aid, Inc., in cities of 70,000 or over. Ask them to send you the GF catalog, or we will send it to you direct from the factory.

THE GENERAL FIREPROOFING CO., Youngstown, Ohio

Manufacturers of All Types of Metal Lath, Concrete Reinforcements, Waterproofings and Technical Paints

Members of Associated Metal Lath Manufacturers

Branches: New York Philadelphia Chicago San Francisco Kansas City Atlanta Cincinnati Buffalo Utica

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Herringbone Rigid Metal Lath

Building for National Lead Co., Brooklyn, N. Y.
Wm. G. Higginson, Architect, New York
Turner Construction Co., Builders

WHEREVER wearproof and waterproof floors are a necessity "ANTI-HYDRO" meets the demands *permanently*.

At the plant of the National Lead Company, as well as at hundreds of other buildings, "ANTI-HYDRO" has eliminated all possibility of floor trouble. It makes concrete permanently waterproof and so hard it cannot possibly dust or chip.

"ANTI-HYDRO" is a liquid integral agent. When mixed with the gauging water, the resulting concrete requires no after surface treatment or protective coating. "ANTI-HYDRO" builds hardness and waterproofing into concrete —through and through.

It has established its permanency through fourteen years of continuous use. Specify it for permanent concrete.

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Waterproofed
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Keep Your Stucco Houses White

Prevent the unsightly staining due to the efflorescence which obtains in unwaterproofed stucco. Make sure that the stucco retains its color purity against lashing rains and weather changes. Specify

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WATERPROOFING
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for your stucco. Mix it with cement and sand. It builds stucco which will not check or discolor.

Medusa is the original *integral* concrete waterproofing. Far superior to mere surface coatings. You can depend on Medusa. Comes in powder and paste form.

Write Department F for interesting booklet. "How to Make Concrete Waterproof"

THE SANDUSKY CEMENT COMPANY
CLEVELAND, OHIO

"The First Line of Defense"

Evans "ALMETL" Fire Doors

(Patent Pending)

are "THE FIRST LINE OF DEFENSE" against the destructive spread of flames through fire wall openings and the resultant losses in hundreds of the largest industrial plants in the country.

Constructed of all-steel and asbestos, their rigidity and strength insures against warping and the heavy wear of shop use.

Fully approved by Underwriters' Laboratories, Chicago, Factory Mutual Laboratories, Boston, and National, State and City Authorities.

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Also Manufacturers of "STAR" Ventilators
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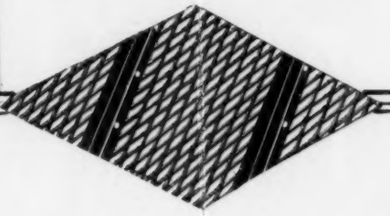

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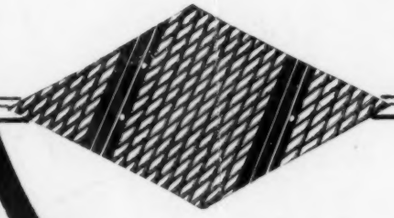
Plaster over metal lath for partitions, walls, and ceilings is recognized as one of the most efficient types of fire-resisting construction. The use of Chanelath as combined lath and furring saves time and reduces cost.

Chanelath can be erected quicker than any other type of lath, because the sheets are larger than those of any other product used for this purpose.



For Concrete Roofs, Walls, Floors, Partitions, Ceilings, etc.

A Building Boom is Predicted

ALREADY the building restrictions have been lifted. Work can now proceed on residences, churches, industrial buildings, etc., whose erection has been hitherto postponed for war reasons.

T-RIB CHANELATH

Combined Form and Reinforcing For Concrete — A Fire Resisting Base For Plaster.

CHANELATH was so largely specified on "war work" building because of the ease and rapidity of erection. And because it is *fireproof*, *permanent*, and *economical* it fulfills every requirement of ordinary construction. Stocks of Chanelath are now available in most principal cities.

Write for free handbook today.

North Western Expanded Metal Co.

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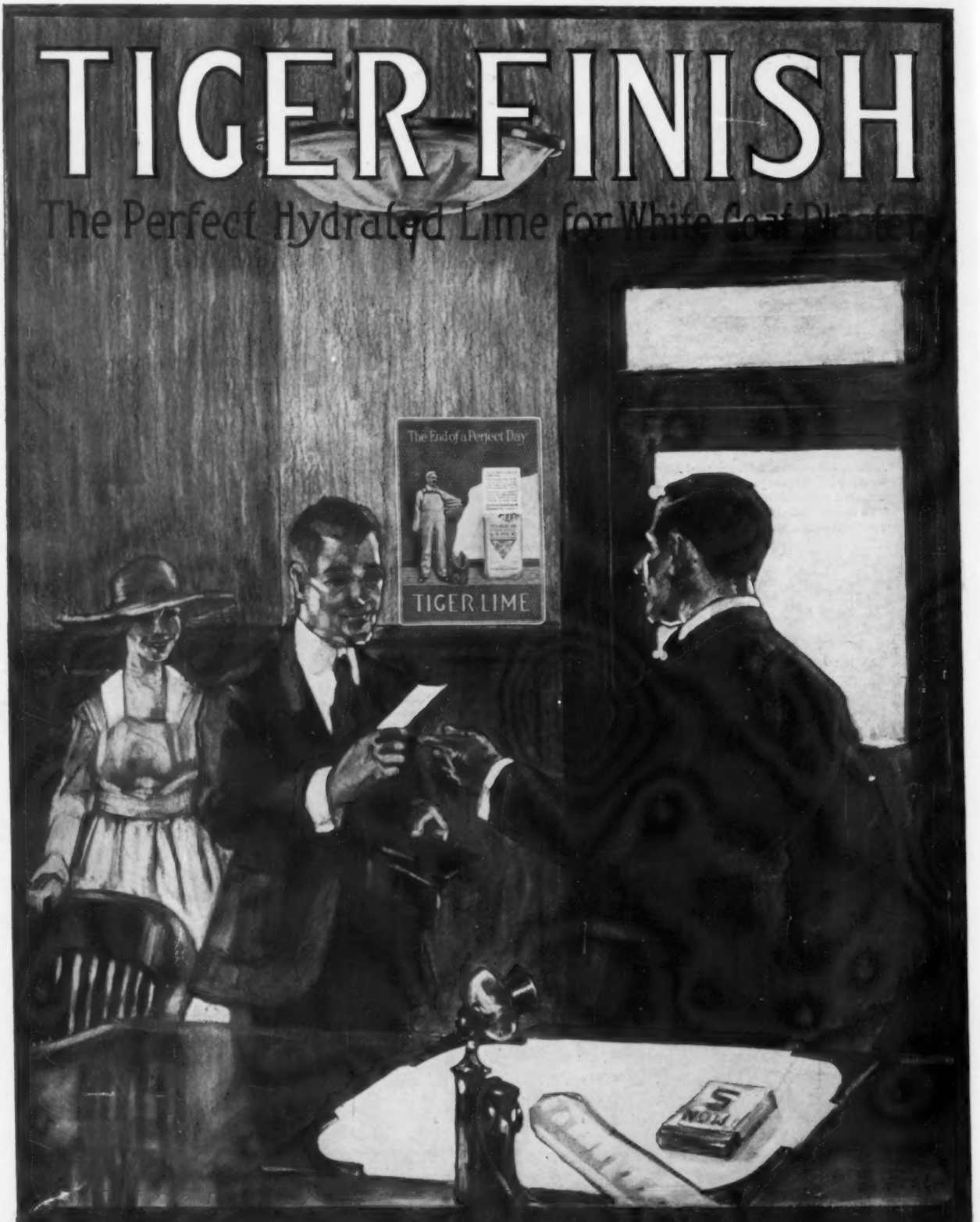
The Perfect Hydrated Lime for White Coat Plaster



THE ACCEPTANCE— **No. 6 of a series showing the Architect at work.**

Satisfaction with every detail is the aim of both architect and client. Thousands of architects and builders have found satisfaction in Tiger Finish for white coat plaster, and for scratch and brown coat, Tiger Mason's Hydrate for mortar and concrete.

THE KELLEY ISLAND LIME & TRANSPORT COMPANY Cleveland, Ohio

The war helped concrete

Speed came first—buildings were needed in the shortest possible time. But both the government and our industries wanted more than speed—they wanted fire-protection, permanency, lowest ultimate cost.

Reinforced concrete gave the best combination. Materials were easily secured, less steel and skilled labor were required, and construction was rapid. The other advantages of concrete are too well known to need reiteration here.

But there is another interesting point, that is, the increasing attention paid to architectural treatment, not only for industrial housing, but for warehouses, factories and great supply bases. It is one more indication of the increasing opportunity for architects who are interested in reinforced concrete.

Our data, statistics and information on reinforced concrete are at your disposal—on request. May we send you our revised book on industrial building construction? Use the coupon.

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Member of the Portland Cement Association

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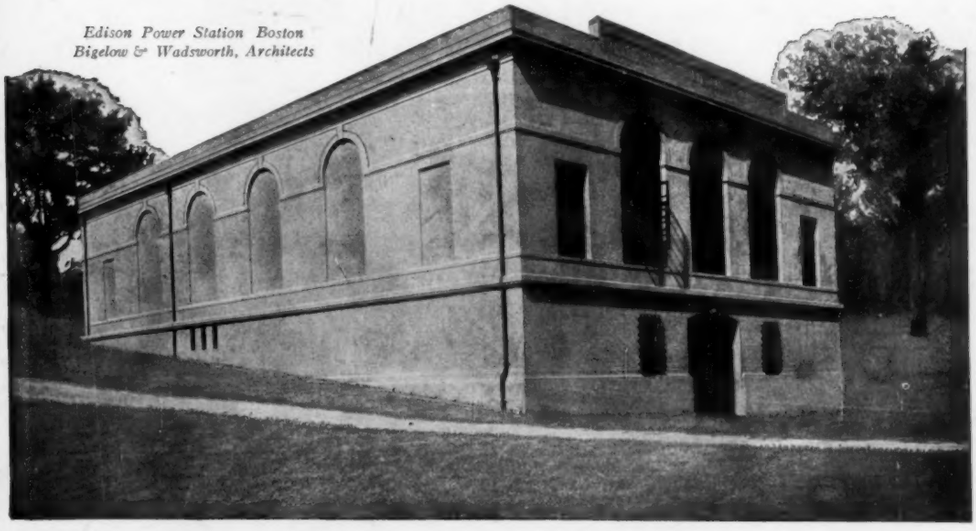

ATLAS CEMENT

THE ATLAS PORTLAND CEMENT CO., 30 Broad Street, New York, or Corn Exchange Bank Building, Chicago. Send book on Industrial Buildings and information bout Atlas Service to name and address written on margin, particularly subjects checked:
.....Industrial Housing .....Warehouses .....Factories .....Lofts .....Cold Storage .....Terminals ..... Hospitals
.....Schools .....Business Garages .....Stables.
If you will state kind of business for which building is intended ..... special information will be furnished.

Truscon Cement Tile roof with small section cut out to show construction at joint.

THE CLEAN CUT LINES OF TRUSCON CEMENT TILE ROOFS

The distinctive design of Truscon Cement Tile adds architectural beauty to any building. The straight surfaces meeting at sharp angles form clean-cut lines of light and shade and give the roof a particularly attractive appearance.

Truscon Cement Tile are factory made under ideal conditions. Only the best concrete materials and reinforcement are used. The red coloring of the top of the tile is integral and permanent. All tile are properly seasoned and inspected.

The light weight, fireproofness and economy of Truscon Cement Tile make it an ideal roof for factories, industrial buildings, etc.

We furnish all types of tile for both sloping and flat roofs. *Prompt shipment* is now being made from our Detroit factory and warehouse stock.

Send for cement tile pamphlet and estimates

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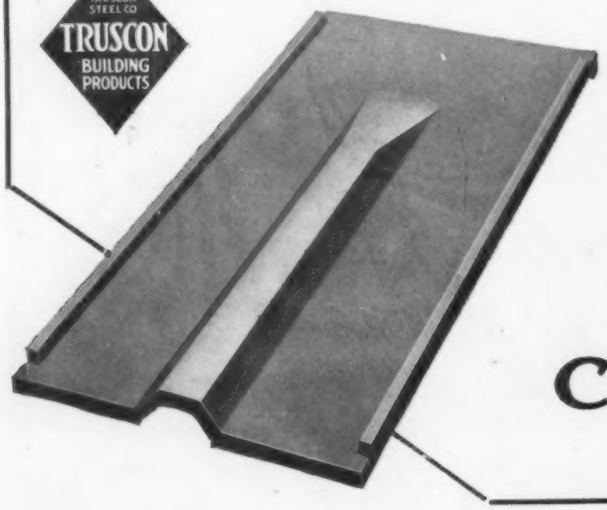
TRUSCON
BUILDING PRODUCTS



TRUSCON STEEL COMPANY
(FORMERLY TRUSSED CONCRETE STEEL CO.)
YOUNGSTOWN, OHIO.
WAREHOUSES AND REPRESENTATIVES IN PRINCIPAL CITIES

TRUSCON
REINFORCED
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NEW YORK MUNICIPAL RAILWAY CORPORATION
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BROOKLYN, NEW YORK
SHOWING APPLICATION OF
AMBLER ASBESTOS WALLBOARD

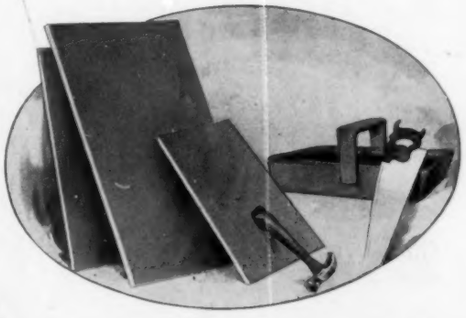
Reducing the Fire Risk to a Minimum

The day is rapidly approaching when all buildings will be made fireproof; especially those parts or rooms where the fire risk is always present, such as kitchens, bathrooms, cellars, closets or storerooms.

Interiors of houses or other buildings can now be made absolutely fireproof and at the same time preserve and enhance their beauty.

It is an easy matter to do this by lining walls and ceiling with

Ambler Asbestos Wallboard



Ambler Asbestos Wallboard
—workable like wood

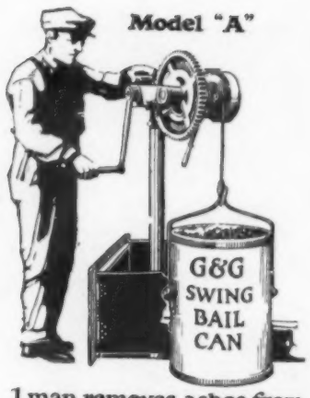
In case of fire it will confine the flames to the room in which it originates and will make hallways and passages safe to permit the escape of occupants of the building, even when they have to pass the room that is in flames.

Ambler Asbestos Wallboard is made in stock size sheets 42 x 48 inches and 42 x 96 inches, and $\frac{3}{16}$ inch thick, slightly pink in color. Though it is hard and rigid, nails are easily driven through it, quite close to the edges, without splitting it. Thus it is quickly applied direct to the studding and ceiling joints, making a smooth, hard, fireproof surface that is attractive in its natural pinkish-gray, or that may be tinted or painted any desirable shade.

Full particulars and prices on request

Keasbey & Mattison Company

Department A-1, Ambler, Pa., U.S.A.



1 man removes ashes from basement to sidewalk.

This is an EASIER Way to REMOVE ASHES than the Old Rope and Pulley!

Specify

G & G Telescopic Hoists

G & G Telescopic Hoists save time and work.
This model is operated by one man. There are other models to meet individual requirements. G & G Hoists can be installed in either new or old buildings. Write for Bulletin I, "What Model Shall I Use?"

GILLIS & GEOGHEGAN

Established 1866

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SHERBROOKE, QUE., CANADA

Goulds Pump in the Home of Spearmint Gum

There is hardly a factory where nationally known products such as Spearmint Gum, Ivory Soap, Quaker Oats, Hershey's Chocolate, etc., are manufactured that doesn't have a Goulds Pump as part of its equipment.
This is the plant of Wm. Wrigley, Jr. & Co., Chicago, Mfrs. of chewing gums, one of the long list of nationally known plants, where Goulds Pumps are used.
Goulds Pumps are built strong and sturdy, last for years and operate with highest efficiency and lowest operating and maintenance costs. Each pump is guaranteed to satisfactorily perform the specific work for which it is sold.
We show here one of the popular standard types of Goulds Pumps for General Water Supply, Tank Pumping, Feeding Boilers, etc., in buildings and industrial plants. *We build pumps for every purpose.*

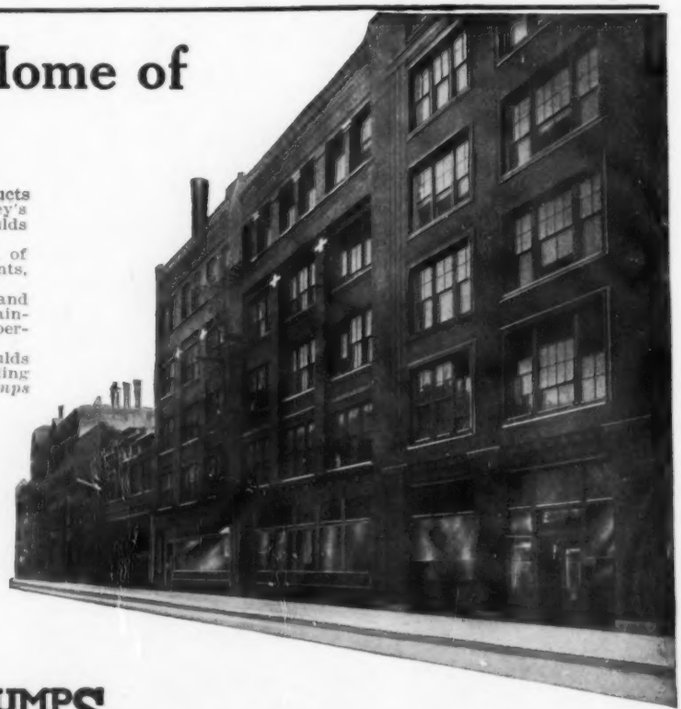
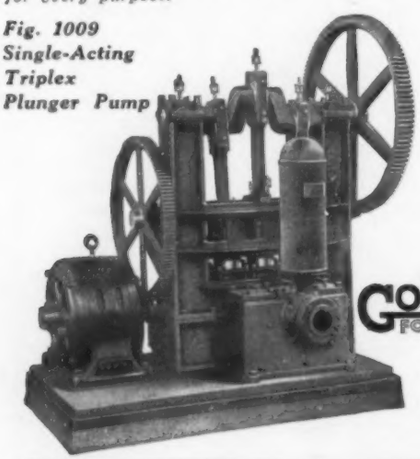


Fig. 1009 Single-Acting Triplex Plunger Pump



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Are you drawing Power from this great reservoir?
ELECTRICITY has become recognized as one of the great elements of modern life. As a factor for industrial and household economy and convenience it ranks first among the world's most practical and adaptable forces.
Electricity for the Factory
Electrical current is the master workman of any shop. As motive power for enormous cranes or for the most delicate machine, it is always adequate—unlike other forms of power—its cost is applied only when in actual use.
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Electricity is the universal servant in the house. By means of the many devices now obtainable, housewives are, more than ever before, independent of servants. Electricity is clean, obviously economical and always a willing, handy helper in the home.
Consult an Expert
Electricity is safe and simple to use—it is only necessary to have an expert to plan and install the equipment. The electrical contractor, the electrical dealer, the architect, the central power company, and the manufacturers of electrical devices are all experts and will gladly assist you in getting the best service.
Dependable Wire
All electrical current is finally delivered by insulated wire. The usefulness of electricity therefore, is dependent upon the quality of wire used and its correct installation.
Ecco Wire is always dependable and is so recognized by experts. It is a standard of quality and by its use can be judged the quality of materials and workmanship of an entire installation. Call in an expert at once. Connect up to the great reservoir of electricity with Ecco Wire and begin to enjoy its benefits and economies.
ECCO Dependable Insulated WIRE
THE ELECTRIC CABLE CO.
10 EAST 43rd STREET, NEW YORK CITY
Makers of Ecco Wire for every purpose where rubber-covered wire is used

IF YOU were a factory owner or a home owner and came across this advertisement in the Saturday Evening Post, Literary Digest or any other of the mediums in which it appears, you would be brought a step nearer to realization of what electricity could do for you.

And you would receive a definite suggestion of how to go about getting your electrical needs satisfied.

Every piece of Ecco publicity is designed to cultivate the market not only for electrical equipment and insulated wire, but also for the services of the technical specialists and organizations associated with the electrical industry.

It is through such co-operation that, we believe, the interests of the electrical industry are best served and the satisfactory use and installation of our products assured.

THE ELECTRIC CABLE COMPANY

Not Chance—

Look for this trade mark added below the regular brands.

KEYSTONE COPPER STEEL

HIGH reputation is never the result of chance. Underneath it you will always find the rock-hewn foundation of *real worth*. In the case of KEYSTONE Copper Steel it has been *fairly earned*—and has come as the result of undeniable superiority in actual service.

Supplied in Black Sheets, Galvanized Sheets, Corrugated and Formed Products, Roofing Terne Plates, Etc.

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The Peak of Efficiency

ALPINA

REVOLVING SYPHON VENTILATOR

Has No Equal For Industrial Buildings

Revolves on greased non-rustable ball bearings, completely encased

Takes Out the Gas, Smoke and Foul Air

Two ounces of pressure will turn the Alpina.
Absolutely Noiseless.
No back draft.
Nothing to get out of order.

Patented October 21, 1913

Milwaukee Corrugating Company

Branch at KANSAS CITY, MO.

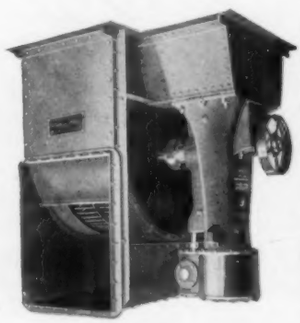
Milwaukee, Wis.

CLARAGE

KALAMAZOO

Multiblade Fans for Heating and Ventilating

Are used and endorsed by the leading Architects, not once, but again and again.



Clarage Multiblade Fans are so designed and constructed that they give *Unusual Service* with *Very Little Attention*.

These Multiblade Fans really *Save Power* because of the peculiar qualities of the Clarage Multiblade Wheel and because they are furnished with *Superior Bearings*, dust-proof and oil-tight.

You will be interested in knowing more about our Fan Equipment. Write today for further information.

CLARAGE FAN COMPANY.

KALAMAZOO—MICHIGAN—U. S. A.

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Sirocco

Farwell Building, Detroit, Michigan

SIROCCO Fan and Air Washer provides fresh air to patrons of largest restaurant in Detroit. It was our privilege to co-operate with the owners in selecting the proper apparatus for their requirements.

The small illustration at the left shows a No. 8 Sirocco Fan and Air Washer which delivers fresh air to the mammoth dining room of the Boerth Company, an illustration of which is shown below. All smoke and impure air from the ovens and kitchen are exhausted by means of a No. 11 Sirocco Fan.

Inherent advantages in design including stability, compactness and economy of operation recommend Sirocco Products to owners and architects. Our engineers are always ready to co-operate with you in selecting the proper apparatus for your special requirements.

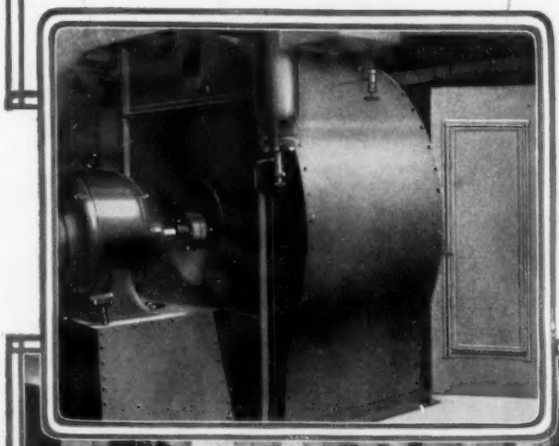
Write for our booklet No. 23041

American Blower Company

DETROIT, MICHIGAN

Canadian Sirocco Co., Ltd., Windsor, Ontario

Branches in all large cities



"It Lasts Like the Pyramids"

REILLY'S
WEATHERWAX
PATENTED
The Liquid Wax Paint

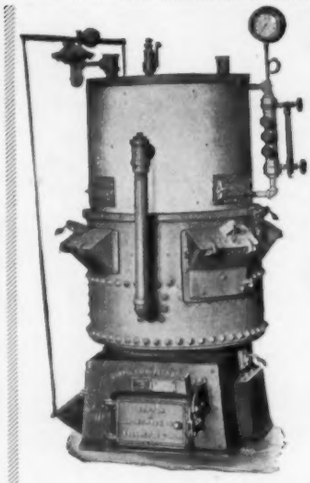
An "Armor-Paint" Against Decay

WEATHERWAX protects wood fully five times longer than best linseed oil paint. The half of each gallon that in other paints evaporates is the half that in Weatherwax *sinks into* the wood and *stays there* to guard it like a coat of armor. Renders the wood proof against weather, wet, heat, etc., for many years. Brushes on twice as fast, requires no thinning and dries fast. Clients like it because it costs half as much to begin and saves cost of repainting. Flat, waxy finish, free from temporary gloss. Non-fading colors: Red, Maroon, Dark Brown, Natural Brown, Black.

Color chart and sample can on request

The Reilly Company, Indianapolis, Ind.

Factories: Indianapolis Minneapolis Mobile Seattle Norfolk



Durability

of the **Gorton Self-Feeding Boiler** is demonstrated by the fact that many of the boilers installed over 25 years ago are still in use giving entire satisfaction.

Efficiency

The **Gorton Self-Feeding Boilers** are built on the lines of Power Boilers, using the same material, thus securing the greatest Strength, Durability, and highest Efficiency.

The **Gorton Self-Feeding Boiler** gives a steady heat with attention only morning and night; its construction insures complete combustion of the gases and prevents the waste of coal.

See pages 2, 3, 4, 6, 8, 10, 11, and 13 of Catalog No. 88.

OUR NEW NO. 88 CATALOG IS READY—WILL BE SENT UPON REQUEST

Gorton & Lidgerwood Co.

96 Liberty Street, New York

All Gorton Self-Feeding Boilers built to the "A. S. M. E. Standard"

The Test

(U. S. Government Requirements)

The 24-inch "GLOBE" Ventilator with 6-inch outlet shows a velocity of more than 460 linear feet of air per minute with an outside wind velocity of 5 miles per hour, when the exterior and interior temperature shows a difference of 40° Fahrenheit, the Government requirements for ventilators.

The Test made on actual installation

GLOBE VENTILATOR CO.
Dept. P Troy, N. Y.

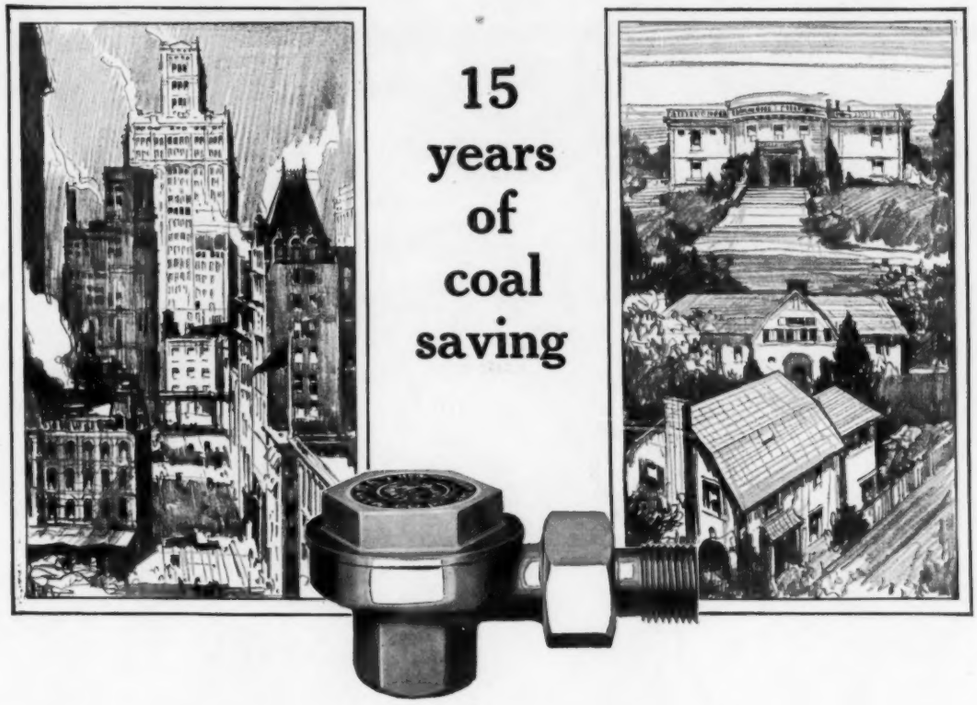
WITH FIRE DAMPER

ROYAL Ventilators

are supplying fresh air to many notable government and private buildings. The simple, scientific principle of the ROYAL secures positive ventilation. There are no spaces for dead air to collect. ROYALS are built along different lines from other ventilators. A constant upward movement of air is maintained. Note carefully design and strong construction. Its installation pleases every owner.

Catalog gives all details

Royal Ventilator Co., 415 Locust Street Philadelphia, Pa.



The Dunham Radiator Trap

Since 1903, the Dunham Radiator Trap has made an unbroken record in its essential work of maintaining the radiator at the point of its highest heating efficiency. It automatically relieves the radiator of all air and water and holds all of the steam within the radiator, there to perform its maximum heating work.

The simplicity of the Dunham Radiator Trap is one of its distinguishing features. It comprises a body, a cover and a thermostatic disc which is secured in the cover. There are no loose parts, no sliding contacts, nothing to gum up and no guide or pin to obstruct the valve opening. There is a flat valve and seat with liberal valve opening. The valve is self-cleaning. The action of the disc is positive and the valve seats squarely, like a globe valve. The body is standardized, as is also the cover and disc, thus giving the further advantages of interchangeable parts. Cast iron does not enter into its manufacture. Only bronze and brass are used.

Complete information may be found in Sweet's Index; pages 916-921.

The DUNHAM HEATING SERVICE

C. A. DUNHAM COMPANY, Fisher Building, CHICAGO

Factories: Marshalltown, Iowa
Toronto, Canada

Branches in 36 Cities in
United States and Canada

Why this fire pot is made the way it is made

SUPPOSE every time you had a tire puncture it was necessary to buy a new wheel!

"Prohibitive" you say.

By the same token take a boiler that has the crown sheet and fire pot cast as one.

When by accident or through carelessness of operation they break—that *entire* casting must be replaced.

The Burnham is cast separately.

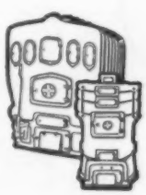
Crown sheet in one section.

Fire pot in another section.

When there is trouble with either one, simply replace the one that's in trouble.

Costs far less. Can be done quicker. Better in every way.

Which ends Burnham Boiler chat number eleven of which there are six more to follow.



Lord & Burnham Co.

IRVINGTON, NEW YORK

Representatives in all principal cities

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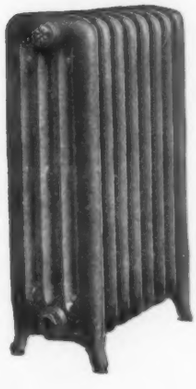
CAPITOL BOILERS

and

United States Radiators

Are well stocked
AT
Plants and Warehouses
FOR
Immediate Shipment

Specifications receive prompt attention



UNITED STATES RADIATOR CORPORATION

GENERAL OFFICES: DETROIT, MICHIGAN

BRANCH OFFICES IN PRINCIPAL CITIES

Miller Hotel and Theatre, Milwaukee, Wisconsin
Joseph Ewens, Architect *Conrad Schmitt, Painting Contractor*

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First: Liquid Velvet is a flat enamel that makes walls and ceilings soft and restful to the eye, unobtrusively beautiful.

Second: Liquid Velvet has an oil base and is washable, thus the original beauty of the architect's conception is preserved for years.

Third: Liquid Velvet has unusual spread and will not crack, chip nor peel. This means economy in first cost.

Fourth: Liquid Velvet is made in white and numerous attractive colors, thus permitting the selection of the exact shade best suited for the particular room or building.

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Portfolio of Specification Data on Request

The O'Brien Varnish Co.

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Varnish Makers for Over Forty Years

Liquid Velvet
THE SPECIFIED BRAND

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"AMERICA'S FINEST CABINET WOOD"

RED GUM IS STEADILY INCREASING ITS LEAD AS THE FAVORITE TRIM IN HOUSES OF MODERATE AND SMALL COST, WHOSE OWNERS SEEK DISTINCTION AS WELL AS INTELLIGENT ECONOMY AND PROVED DURABILITY.

RED GUM

"AMERICA'S FINEST CABINET WOOD"
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Ask us for complimentary samples and literature.

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FOR FURNITURE of DIGNITY

OAK INTERIOR TRIM FOR HOMES AND PUBLIC BUILDINGS

(and for the corresponding FURNITURE) is desired by the well informed, not only because of its historic excellence as a cabinet-wood and its inborn trait of "staying put," but also because, by reason of centuries of respectful familiarity, there is an inbred accuracy in handling OAK among those who work in woods. They know how to get the best results without the experimentation required for less standard cabinet-woods

THE AMERICAN OAK MANUFACTURERS ASSOCIATION

know the whys and hows of OAK. Ask them any sort of questions. Write for booklets and finished samples. Please address

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But the highly successful use of birch does not stop short of the most elaborate projects, public and private. Good value for the money is no obstacle in any use and the remarkable adaptability of birch to all effects of stain and enamel render it quite as appropriate to, and quite as widely used in, the greatest works as in the cottage.

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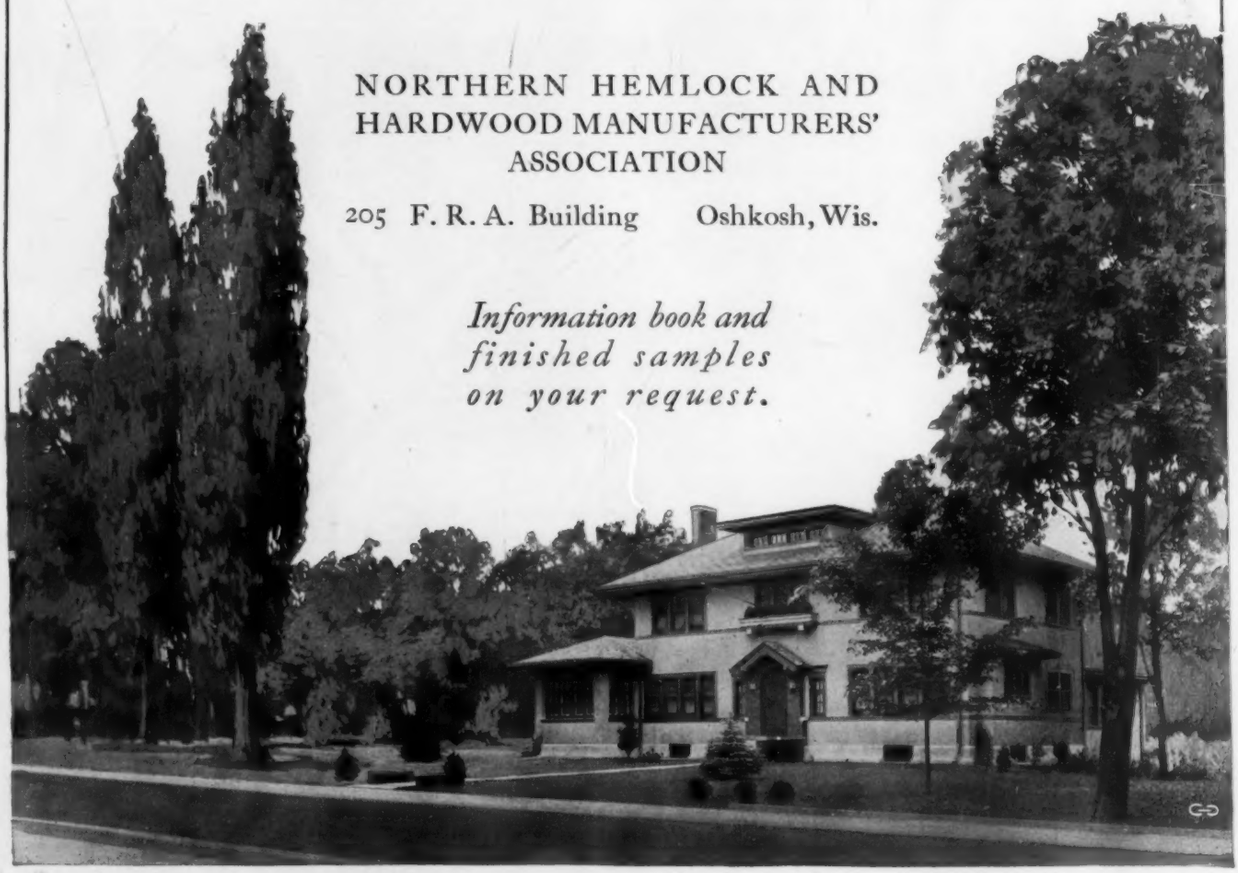

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Look at the Michigan Central Depot of Detroit shown here. It's the picture of health and beauty. Bay State Coating made this building waterproof, dustproof and wearproof.

It comes in white and a variety of tints. Send for a free sample and try it. Ask for Booklet No. 10.

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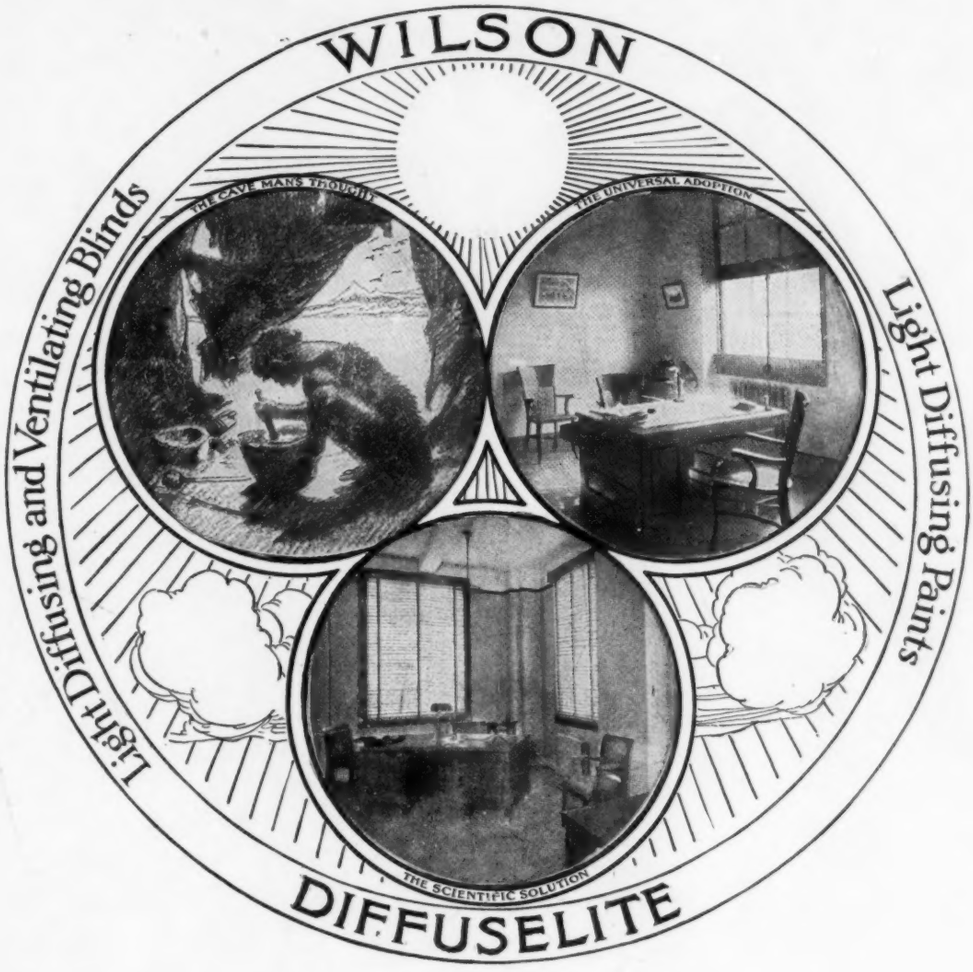

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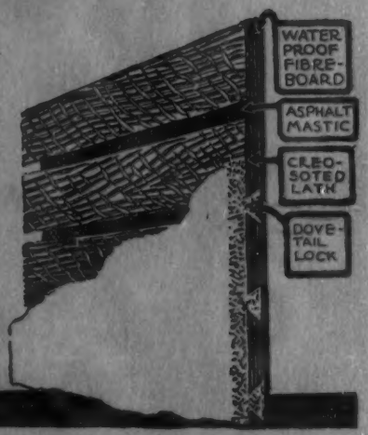
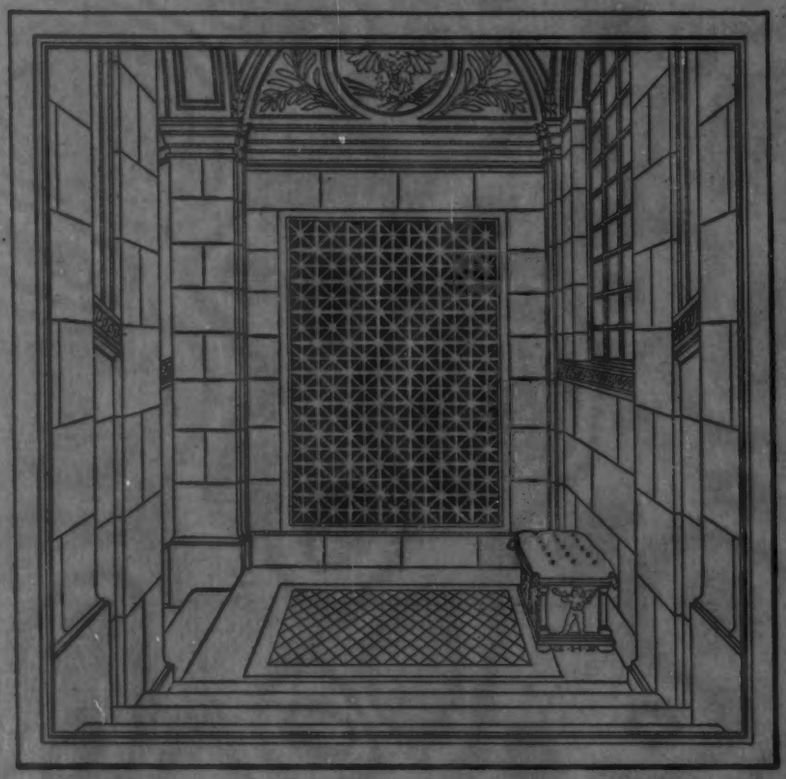
Write *today*, investigate for yourself, be convinced.





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